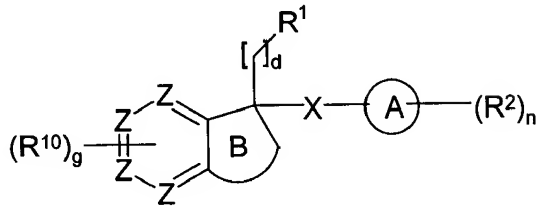
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the Claims:

What is claimed is:

1. (Currently Amended) A compound of formula (I)



(I)

or pharmaceutically acceptable derivatives thereof, wherein:

X is a C_{1-5} alkylene chain having 0 heteroatoms, wherein said X is optionally substituted by one or more =O, =S, $-S(O)_t-$, alkyl, or halogen; ~~and wherein said C_{1-5} alkylene chain may optionally have 0-3 heteroatoms selected from oxygen, phosphorus, sulfur, or nitrogen;~~

Ring A is ~~a saturated, partially saturated, or aromatic 3-7 monocyclic or~~ an ~~8-10~~ 8-membered bicyclic ring having one ring nitrogen ~~and 0-4 additional heteroatoms selected from oxygen, phosphorus, sulfur, or nitrogen~~;

Ring B is a ~~4-7~~ 5- membered saturated, ~~partially saturated, or aromatic~~ carbocyclic ring optionally containing one or two heteroatoms selected from oxygen, phosphorus, sulfur, ~~or~~ and nitrogen;

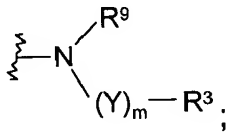
each Z ~~may be~~ is carbon; ~~or nitrogen, provided that at least one Z is carbon;~~

R^1 is ~~selected from the group consisting of~~

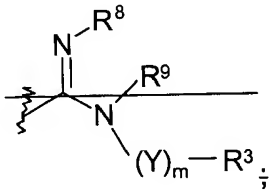
~~(a) a saturated, partially saturated, or aromatic 4-7 monocyclic or 8-10 membered bicyclic ring having one ring nitrogen and 0-4 additional heteroatoms~~

~~selected from oxygen, phosphorus, sulfur, or nitrogen, optionally attached through a C_{1-6} alkylene chain, and optionally substituted by one or more R^8;~~

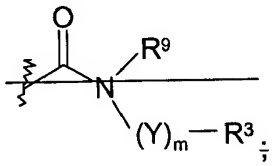
~~(b)~~



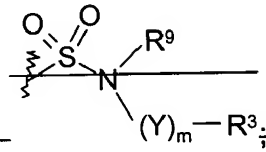
~~(c)~~



~~(d)~~

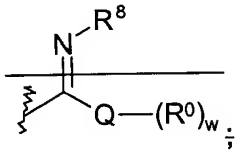


~~(e)~~



~~; and~~

~~(f)~~



~~Q is carbon, oxygen, or $S(O)_t$;~~

~~w is 1 or 2;~~

each R^2 is independently selected from the group consisting of $-OR^0$, $-C(O)-R^0$, $-S(O)_2-R^0$, $-C(O)-N(R^0)_2$, $-S(O)_2-N(R^0)_2$, $-(CH_2)_a-N(R^0)(-V_b-R^+)$, $-(CH_2)_a-(-V_b-R^+)$,

halogen, alkyl optionally substituted by one or more R^7, alkenyl optionally substituted by one or more R^7, alkynyl optionally substituted by one or more R^7, aryl optionally substituted by one or more R^6, heteroaryl optionally substituted by one or more R^6, cycloalkyl optionally substituted by one or more R^8, and heterocyclyl optionally substituted by one or more R^8; and two adjacent R^2s on Ring A are optionally taken together to form a fused, saturated, partially saturated or aromatic 5-6 membered ring having 0-3 heteroatoms selected from oxygen, phosphorus, sulfur, or nitrogen; or two geminal R^2s are optionally taken together to form a spiro, saturated, partially saturated or aromatic 5-6 membered ring having 0-3 heteroatoms selected from oxygen, phosphorus, sulfur, or nitrogen, said fused or spiro ring being optionally substituted by one or more R^8;

each a independently is 0-3;

each b independently is 0 or 1;

V is -C(O)-, -C(O)O-, $-S(O)_2-$, or -C(O)-$N(R^o)$-;

R^+ is alkyl, cycloalkyl, aralkyl, aryl, heteroaryl, heteroaralkyl, or heterocyclyl, wherein said R^+ is optionally substituted by one or more R^8;

d is 1-3;

m is 0 or 1;

n is 0-5;

R^3 is H, $-N(R^0)_2$, $-N(R^0)C(O)R^0$, -CN, halogen, CF_3, alkyl optionally substituted by one or more groups selected from R^7 or -S-aryl optionally substituted by $-(CH_2)_{1-6}-N(R^0)SO_2(R^0)$, alkenyl optionally substituted by one or more groups selected from R^7 or -S-aryl optionally substituted by $-(CH_2)_{1-6}-N(R^0)SO_2(R^0)$, alkynyl optionally substituted by one or more groups selected from R^7 or -S-aryl optionally substituted by $-(CH_2)_{1-6}-N(R^0)SO_2(R^0)$, cycloalkyl or carbocyclyl optionally substituted by one or more R^8, aryl optionally substituted by one or more R^6, heteroaryl optionally substituted by one or more R^8, or heterocyclyl optionally substituted by one or more R^6;

Y is alkyl, alkenyl, alkynyl, $-(CR^4R^5)_p-$, -C(O)-, -C(O)C(O)-, -C(S)-, $-O-(CH_2)_{0-4}-C(O)-$, $-(CH_2)_{0-4}-C(O)-O-$, $-N(R^0)-C(O)-$, $-C(O)-N(R^0)-$, $-N(R^0)-C(S)-$, $-S(O)_t-$, -O-C(=N-CN)-, $-O-C(=N-R^0)-$, -C(=N-CN)-O-, -C(=N-CN)-S-, $-C(=N-R^0)-O-$,

-S-C(=N-CN)-, -N(R^0)-C(=N-CN)-, -C(=N-CN)-, -N(R^0)-C[=N-C(O)-R^0], -N(R^0)-C[=N-S(O)$_t$-R^0], -N(R^0)-C(=N-OR^0)-, -N(R^0)-C(=N-R^0)-, or -C(=N-R^0)-;

each R^4 is independently H, alkyl optionally substituted by R^7, alkenyl optionally substituted by R^7, or alkynyl optionally substituted by R^7;

each R^5 is independently selected from H, -C(O)-OR^6, -C(O)-N(R^0)$_2$, -S(O)$_2$N(R^0)$_2$, -S(O)$_2$$R^0$, aryl optionally substituted by R^6, or heteroaryl optionally substituted by R^6;

p is 1-5;

t is 1 or 2;

each R^6 is independently selected from the group consisting of halogen, -CF_3, -OCF_3, -OR^0, -(CH$_2$)$_{1-6}$-OR^0, -SR^0, -(CH$_2$)$_{1-6}$-SR^0, -SCF_3, -R^0, methylenedioxy, ethylenedioxy, -NO_2, -CN, -(CH$_2$)$_{1-6}$-CN, -N(R^0)$_2$, -(CH$_2$)$_{1-6}$-N(R^0)$_2$, -NR^0C(O)R^0, -NR^0(CN), -NR^0C(O)N(R^0)$_2$, -NR^0C(S)N(R^0)$_2$, -NR^0C$O_2$$R^0$, -N$R^0NR^0$C(O)$R^0$, -N$R^0NR^0$C(O)N($R^0$)$_2$, -N$R^0NR^0CO_2$$R^0$, -C(O)C(O)$R^0$, -C(O)C$H_2$C(O)$R^0$, -(CH$_2$)$_{0-6}CO_2$$R^0$, -O-C(O)$R^0$, -C(O)$R^0$, -C(O)N($R^0$)N($R^0$)$_2$, -C(O)N($R^0$)$_2$, -C(O)N($R^0$)OH, -C(O)N($R^0$)S$O_2$$R^0$, -OC(O)N($R^0$)$_2$, -S(O)$_t$$R^0$, -S(O)$_t$-O$R^0$, -S(O)$_t$N($R^0$)C(O)$R^0$, -S(O)$_t$N($R^0$)O$R^0$, -N$R^0SO_2$N($R^0$)$_2$, -N$R^0SO_2$$R^0$, -C(=S)N($R^0$)$_2$, -C(=NH)-N($R^0$)$_2$, -(CH$_2$)$_{1-6}$-C(O)$R^0$, -C(=N-O$R^0$)-N($R^0$)$_2$, -O-(CH$_2$)$_{0-6}$-S$O_2$N($R^0$)$_2$, –(CH$_2$)$_{1-6}$NHC(O)$R^0$, and -S$O_2$N($R^0$)$_2$ wherein the two R^0s on the same nitrogen are optionally taken together to form a 5-8 membered saturated, partially saturated, or aromatic ring having additional 0-4 heteroatoms selected from oxygen, phosphorus, nitrogen, or sulfur;

each R^7 is independently selected from the group consisting of halogen, -CF_3, -R^0, -OR^0, -OCF_3, -(CH$_2$)$_{1-6}$-OR^0, -SR^0, -SCF_3, -(CH$_2$)$_{1-6}$-SR^0, aryl optionally substituted by R^6, methylenedioxy, ethylenedioxy, -NO_2, -CN, -(CH$_2$)$_{1-6}$-CN, -N(R^0)$_2$, -(CH$_2$)$_{1-6}$-N(R^0)$_2$, -NR^0C(O)R^0, -NR^0(CN), -NR^0C(O)N(R^0)$_2$, -N(R^0)C(S)N(R^0)$_2$, -NR^0C$O_2$$R^0$, -N$R^0NR^0$C(O)$R^0$, -N$R^0NR^0$C(O)N($R^0$)$_2$, -N$R^0NR^0CO_2$$R^0$, -C(O)C(O)$R^0$, -C(O)C$H_2$C(O)$R^0$, -(CH$_2$)$_{0-6}$-C$O_2$$R^0$, -C(O)$R^0$, -C(O)N($R^0$)N($R^0$)$_2$, -C(O)N($R^0$)$_2$, -C(O)N($R^0$)OH, -OC(O)$R^0$, -C(O)N($R^0$)S$O_2$$R^0$, -OC(O)N($R^0$)$_2$, -S(O)$_t$$R^0$, -S(O)$_t$-O$R^0$, -S(O)$_t$N($R^0$)C(O)$R^0$, -S(O)$_t$N($R^0$)O$R^0$, -

$NR^0SO_2N(R^0)_2$, $-NR^0SO_2R^0$, $-C(=S)N(R^0)_2$, $-C(=NH)-N(R^0)_2$, $-(CH_2)_{1-6}-C(O)R^0$, $-C(=N-OR^0)-N(R^0)_2$, $-O-(CH_2)_{0-6}-SO_2N(R^0)_2$, $-(CH_2)_{1-6}-NHC(O)R^0$, and $-SO_2N(R^0)_2$ wherein the two R^0s on the same nitrogen are optionally taken together to form a 5-8 membered saturated, partially saturated, or aromatic ring having additional 0-4 heteroatoms selected from oxygen, phosphorus, nitrogen, or sulfur;

each R^8 is independently selected from R^7, =O, =S, $=N(R^0)$, or =N(CN);

R^9 is hydrogen, alkyl optionally substituted by one or more R^7, alkenyl optionally substituted by one or more R^7, alkynyl optionally substituted by one or more R^7, cycloalkyl optionally substituted by one or more R^8, heterocyclyl optionally substituted by one or more R^8, heteroaryl optionally substituted by one or more R^6, or aryl optionally substituted by one or more R^6; $-(Y)_m-R^3$ and R^9 may combine with the nitrogen atom with which they are attached to form a saturated, partially saturated, or aromatic 5-7 membered monocyclic or 8-10 membered bicyclic ring that optionally contains 1 to 3 additional heteroatoms selected from oxygen, phosphorus, nitrogen, or sulfur, wherein said ring may be optionally substituted with one or more R^8;

each R^{10} is R^7 or two R^{10} optionally may be taken together to form a 3-7 member saturated, partially saturated, or aromatic carbocyclic ring, optionally containing one or more heteroatom selected from oxygen, phosphorus, nitrogen, or sulfur that is fused with the depicted ring;

g is 0 to 4;

each R^0 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, carbocyclylalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, heterocyclyl, and heterocyclylalkyl, wherein each member of R^0 except H is optionally substituted by one or more R*, OR*, $N(R^*)_2$, =O, =S, halogen, CF_3, NO_2, CN, $-C(O)R^*$, $-CO_2R^*$, -C(O)-aryl, -C(O)-heteroaryl, -C(O)-aralkyl, $-S(O)_t$-aryl, $-S(O)_t$-heteroaryl, $-NR^*SO_2R^*$, $-NR^*C(O)R^*$, $-NR^*C(O)N(R^*)_2$, $-N(R^*)C(S)N(R^*)_2$, $-NR^*CO_2R^*$, $-NR^*NR^*C(O)R^*$, $-NR^*NR^*C(O)N(R^*)_2$, $-NR^*NR^*CO_2R^*$, $-C(O)C(O)R^*$, $-C(O)CH_2C(O)R^*$, $-C(O)N(R^*)N(R^*)_2$, $-C(O)N(R^*)_2$, $-C(O)NR^*SO_2R^*$, $-OC(O)N(R^*)_2$, $-S(O)_tR^*$, $-NR^*SO_2N(R^*)_2$, and $-SO_2N(R^*)_2$

wherein the two R*s on the same nitrogen are optionally taken together to form a 5-8 membered saturated, partially saturated or aromatic ring having additional 0-4 heteroatoms selected from oxygen, phosphorus, nitrogen, or sulfur; and

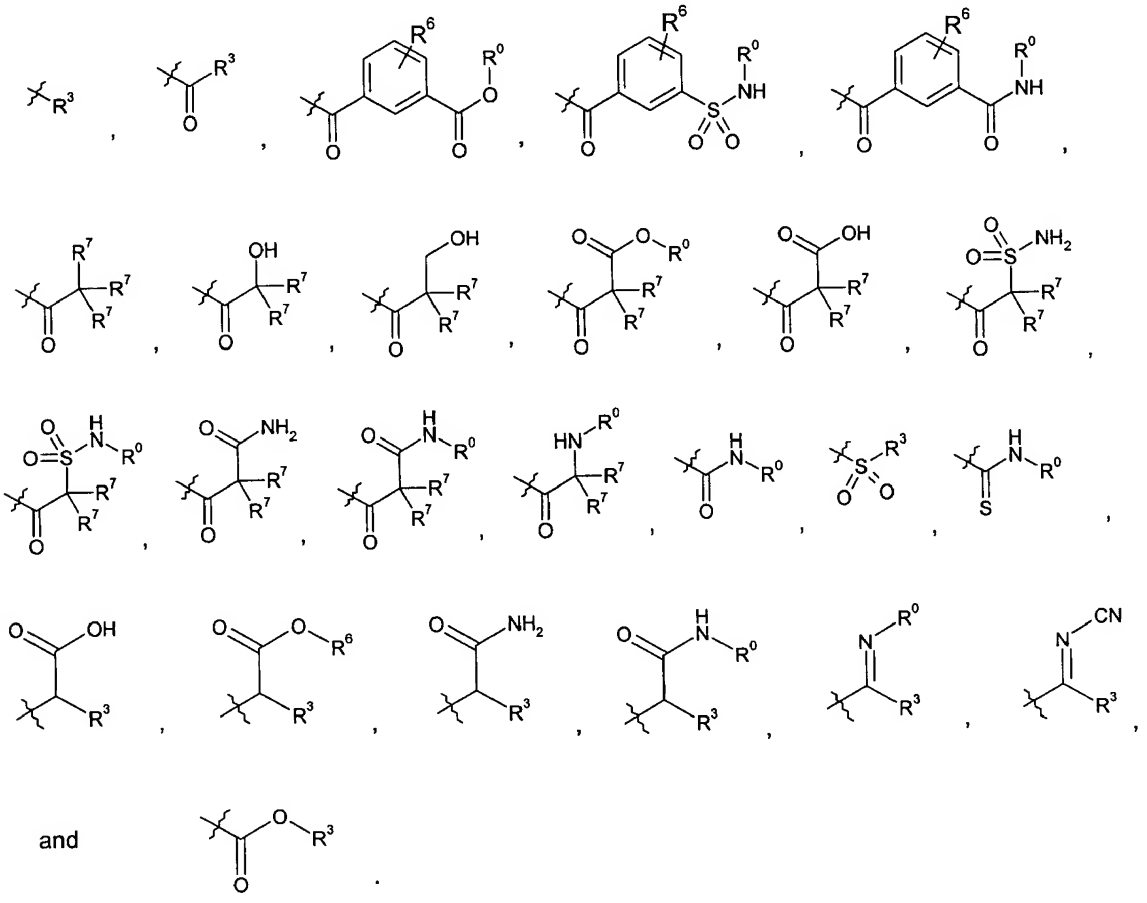
each R* is independently H, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, or heteroaryl.

2. (Cancelled).

3. (Currently Amended) The compound of claim ~~2~~ 1 wherein R^9 is alkyl.

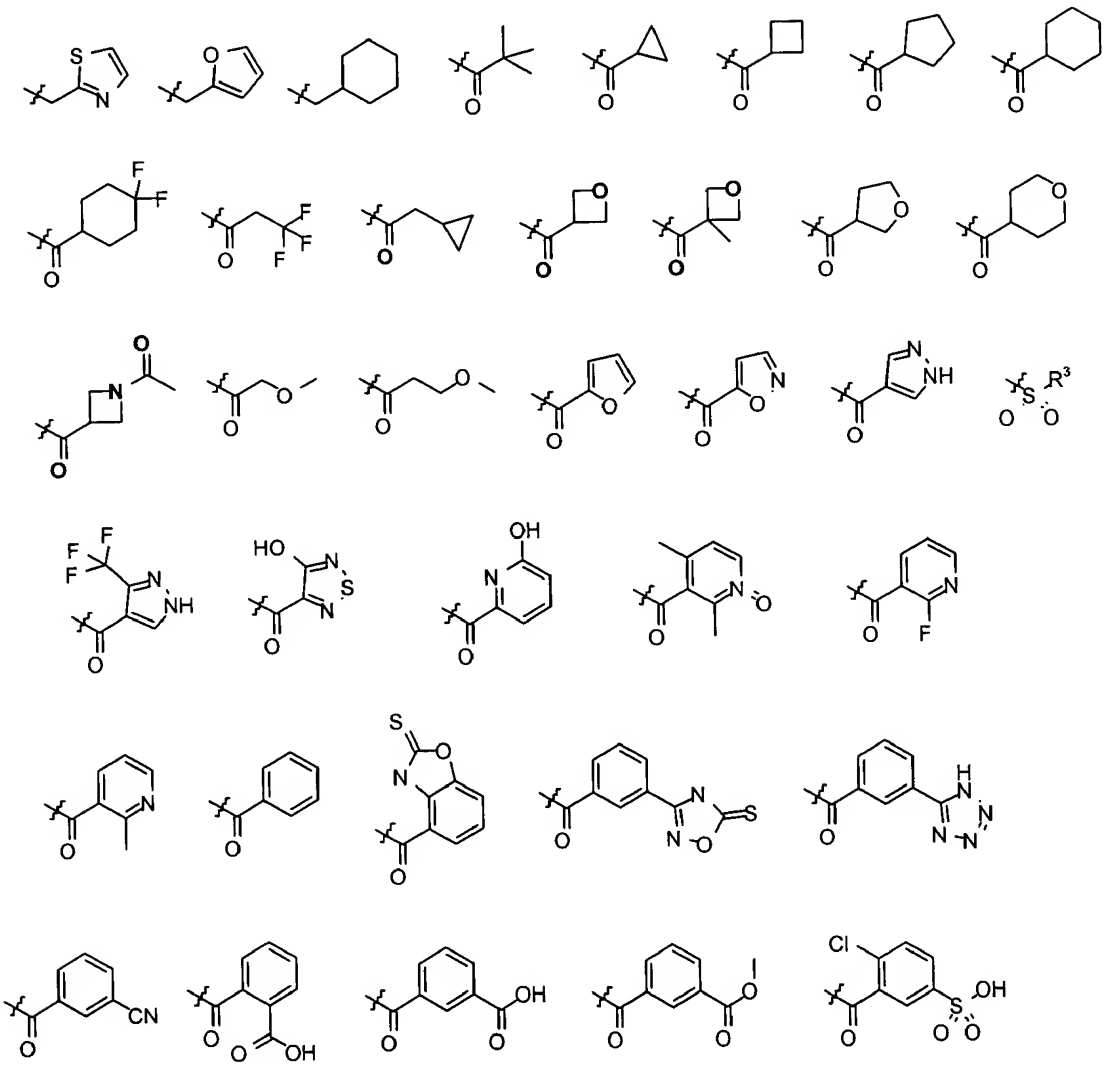
4. (Currently Amended) The compound of claim ~~2~~ 1 wherein R^9 is methyl.

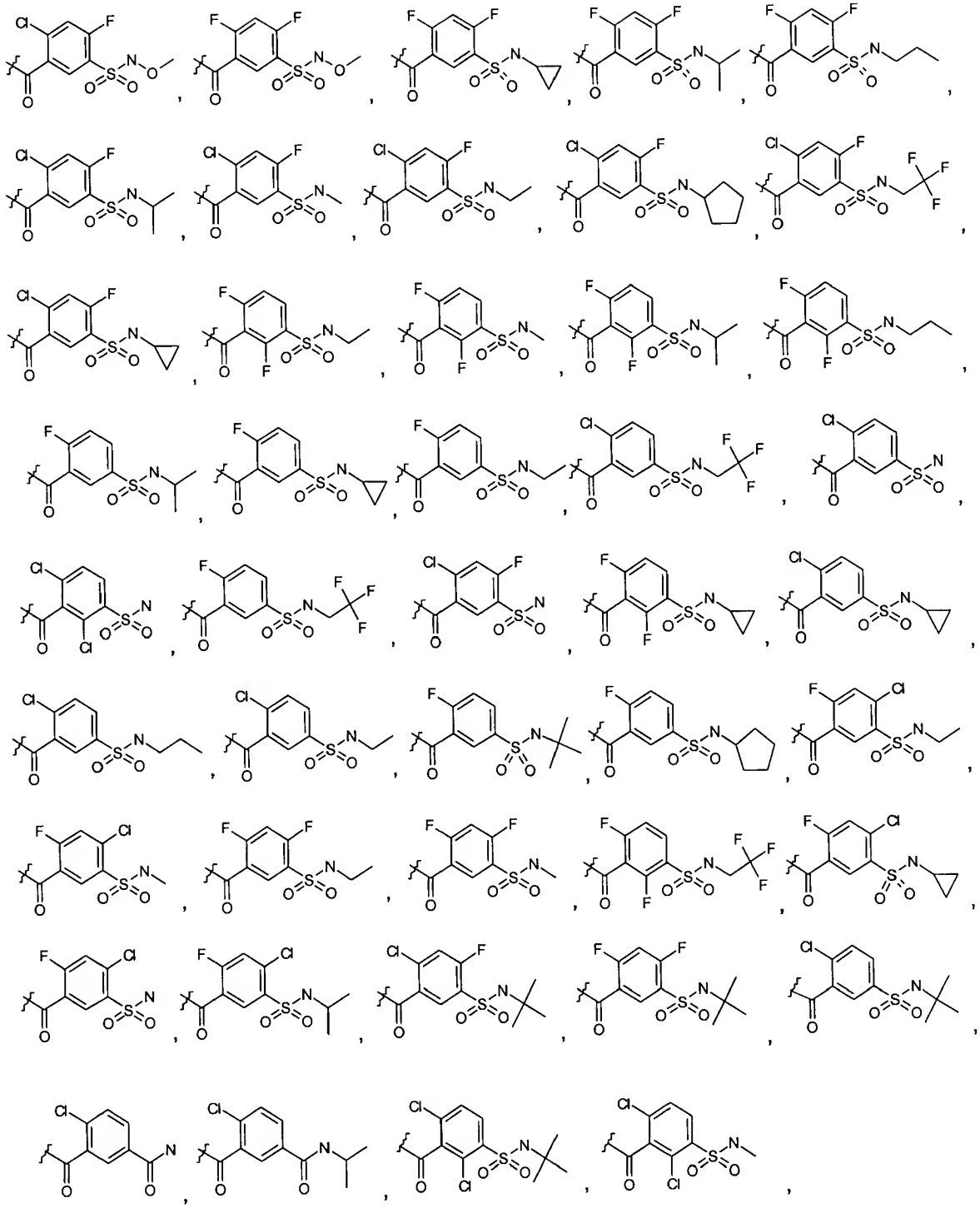
5. (Currently Amended) The compound of claim ~~2~~ 1 wherein $-(Y)_m-R^3$ is selected from the group consisting of

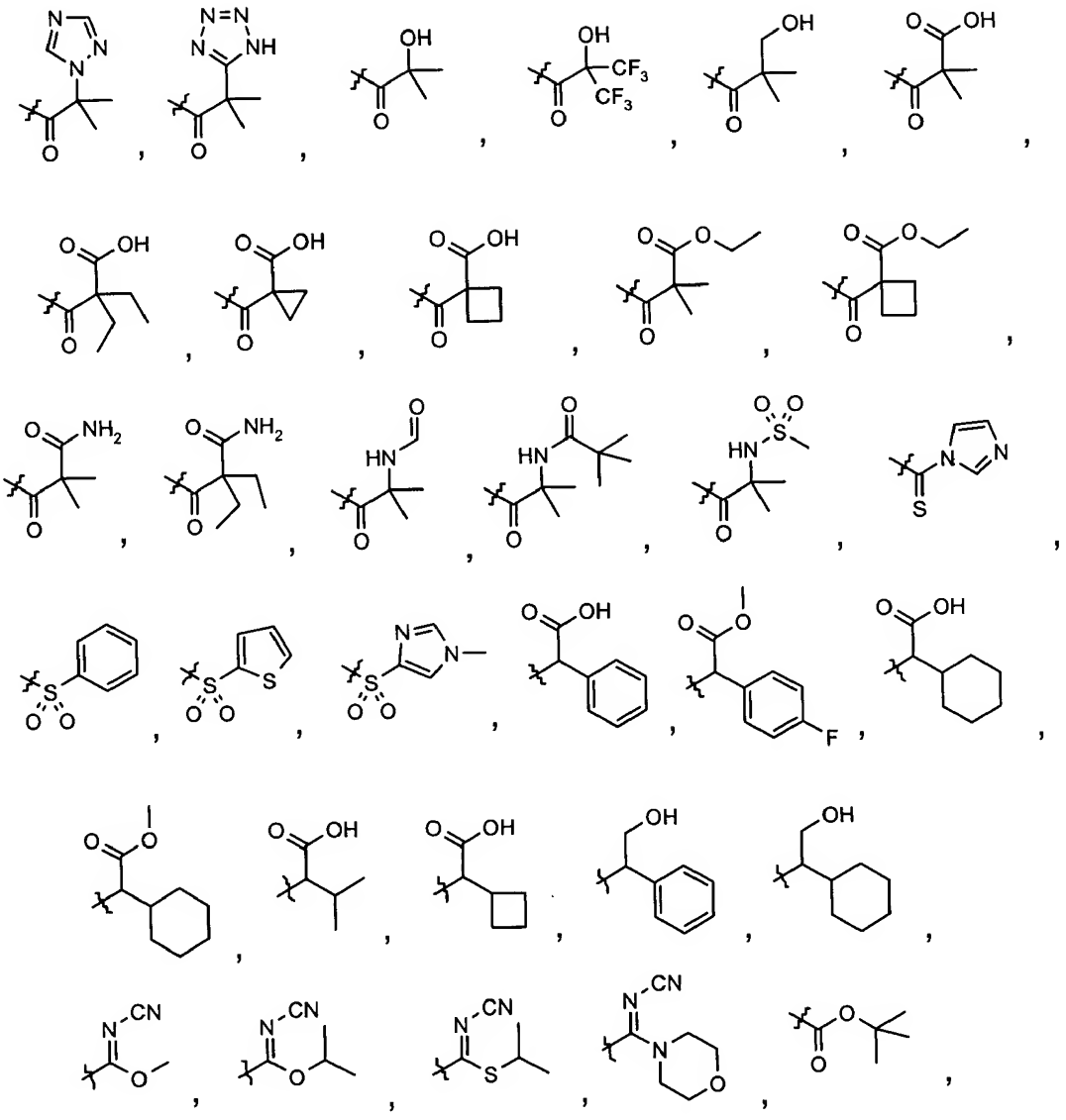


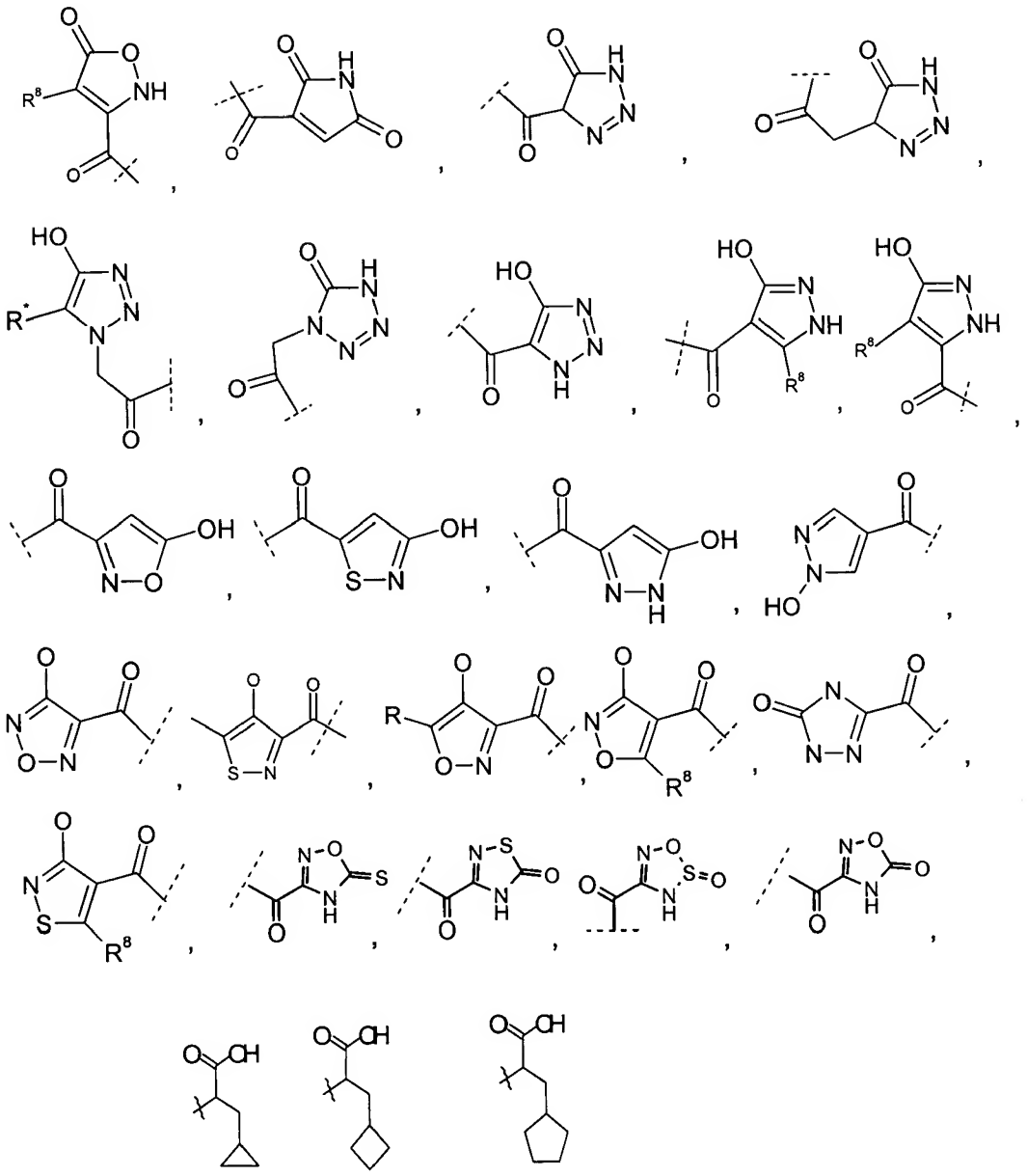
and

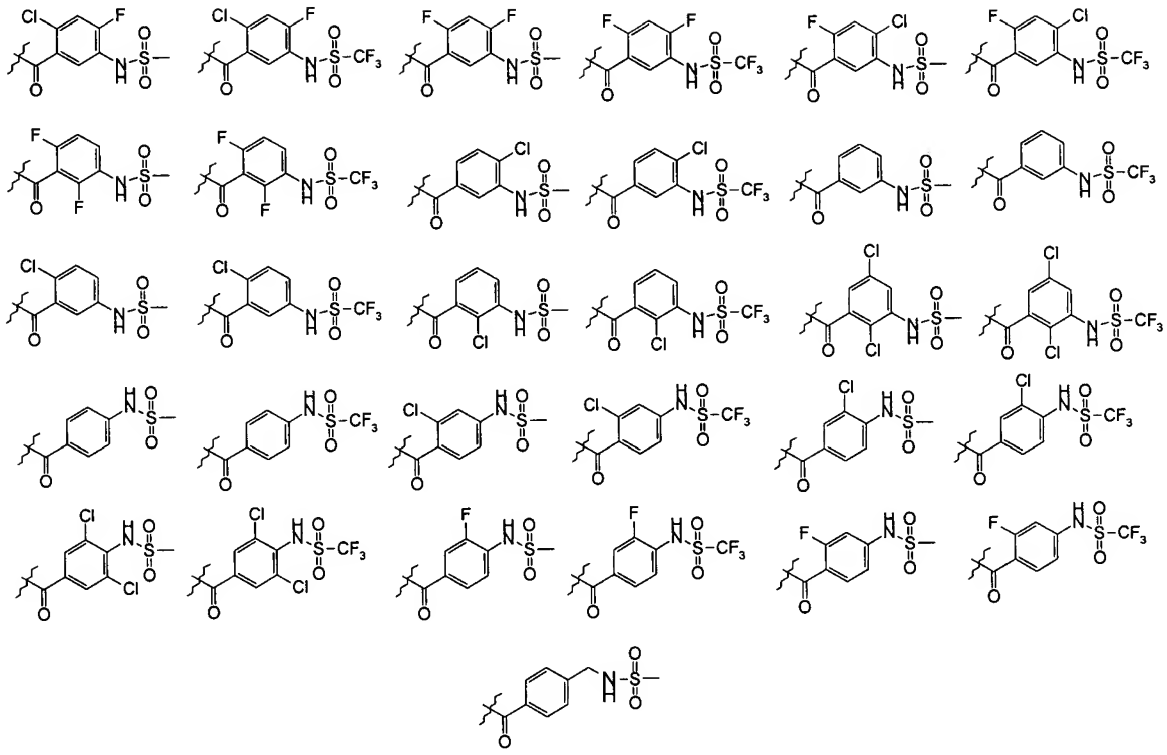
6. (Currently Amended) The compound of claim ~~2~~ 1 wherein $-(Y)_m-R^3$ is selected from the group consisting of





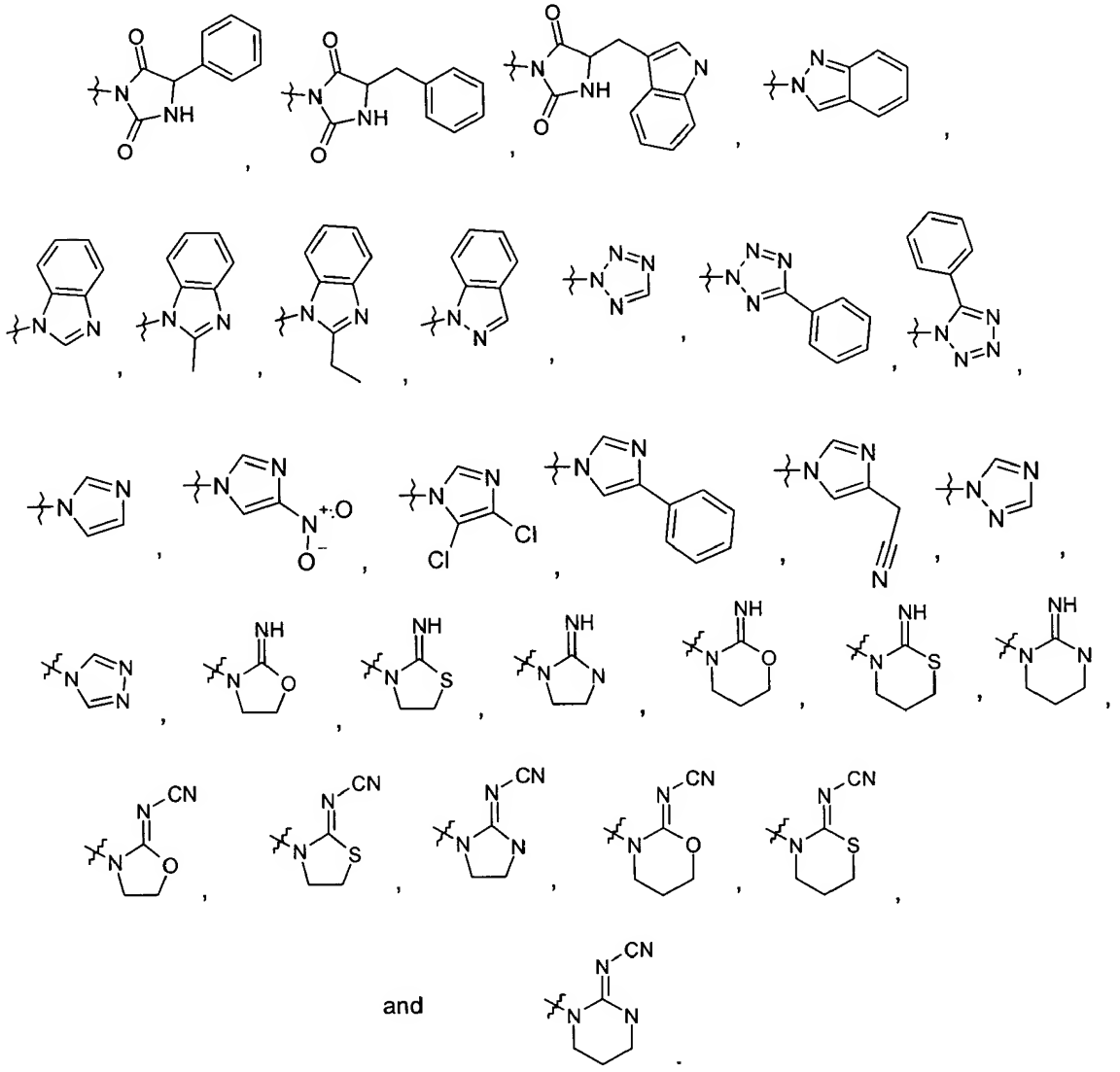






and .

7. (Original) The compound of claim 1 wherein $-(Y)_m-R^3$ and $-R^9$ combine with the nitrogen atom to which they are attached to form a moiety selected from the group consisting of



and

.

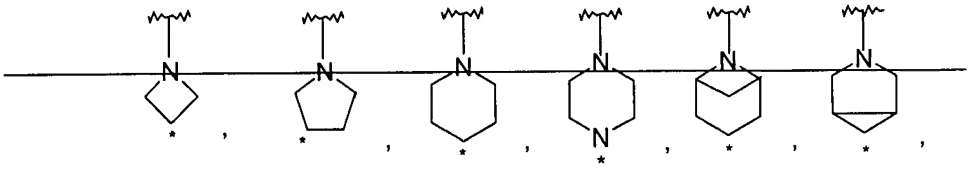
8. (Cancelled)

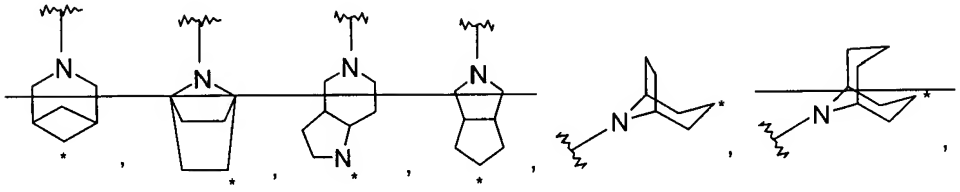
9. (Original) The compound of claim 1 wherein X is $-(CH_2)-$, $-(CH_2-CH_2)-$, or $-(CH_2-CH_2-CH_2)-$.

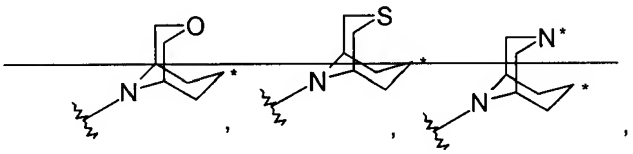
10. (Original) The compound of claim 9 wherein X is optionally substituted by one or more halogen or oxo.

11. (Cancelled)

12. (Currently Amended) The compound of claim 1 wherein the A ring is selected, with the asterisk indicating a point of optional further substitution is selected from the group consisting of







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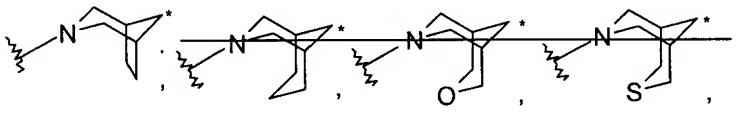

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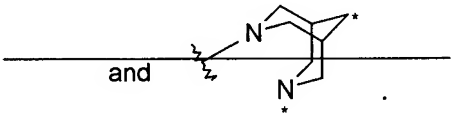
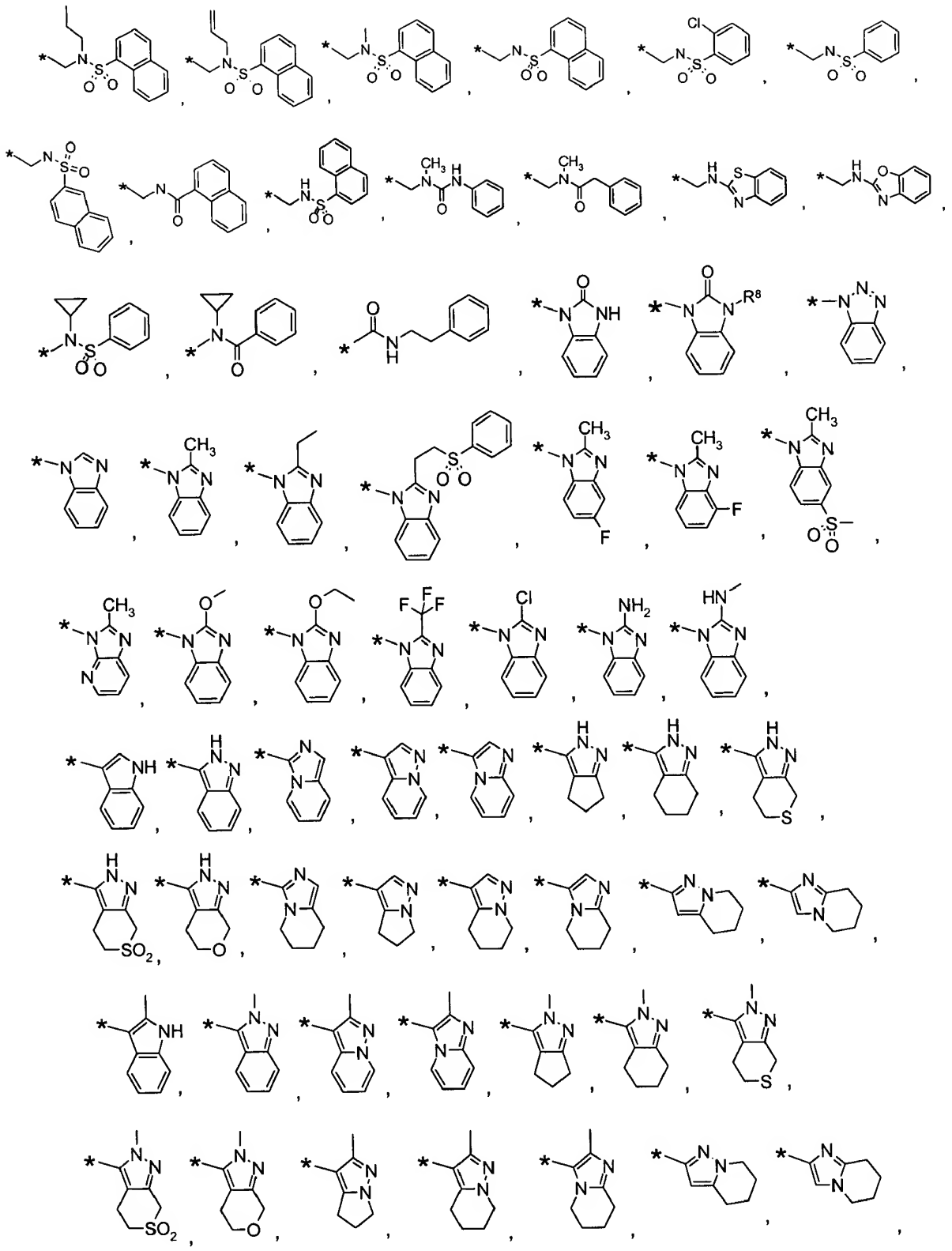
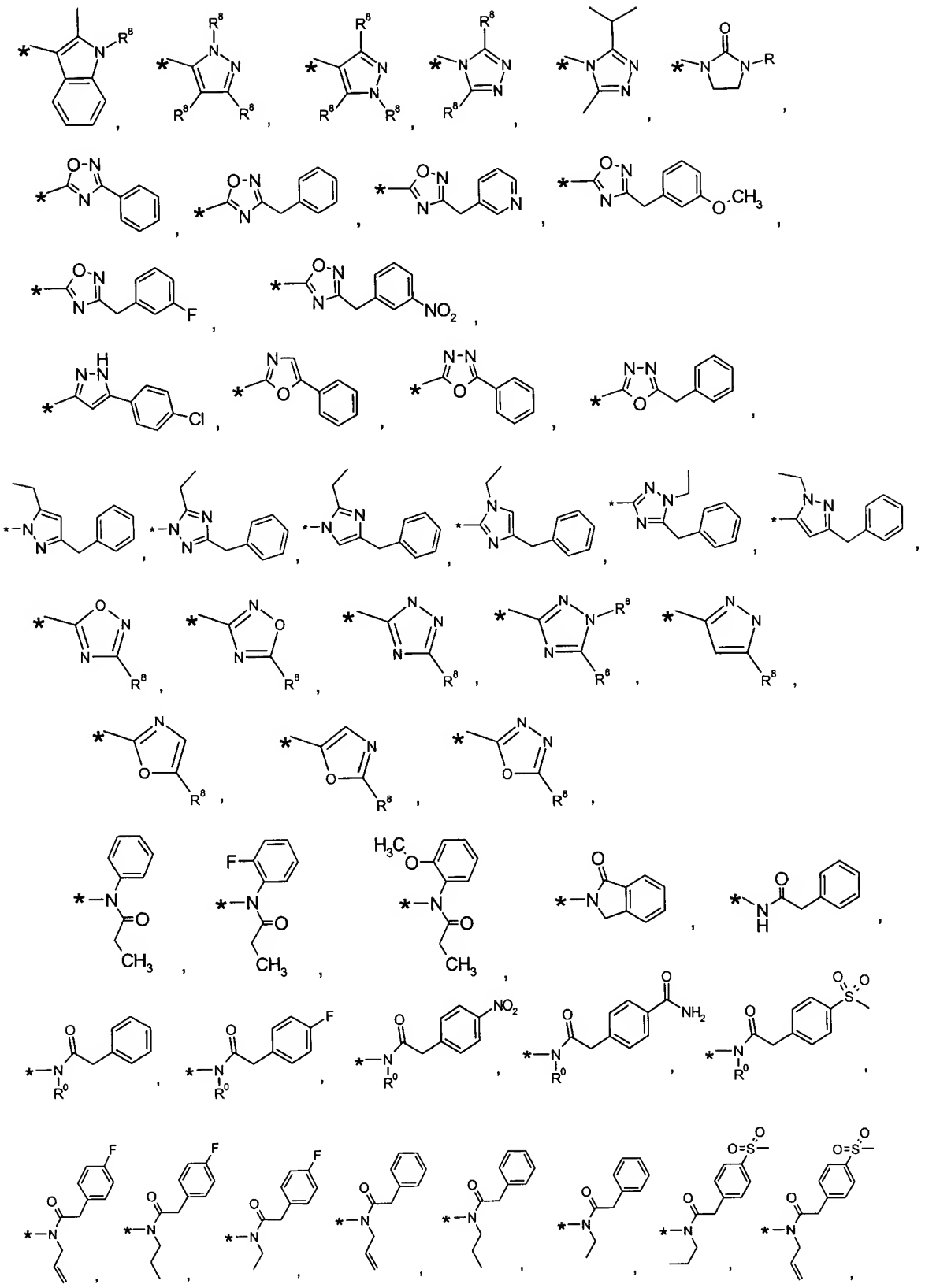
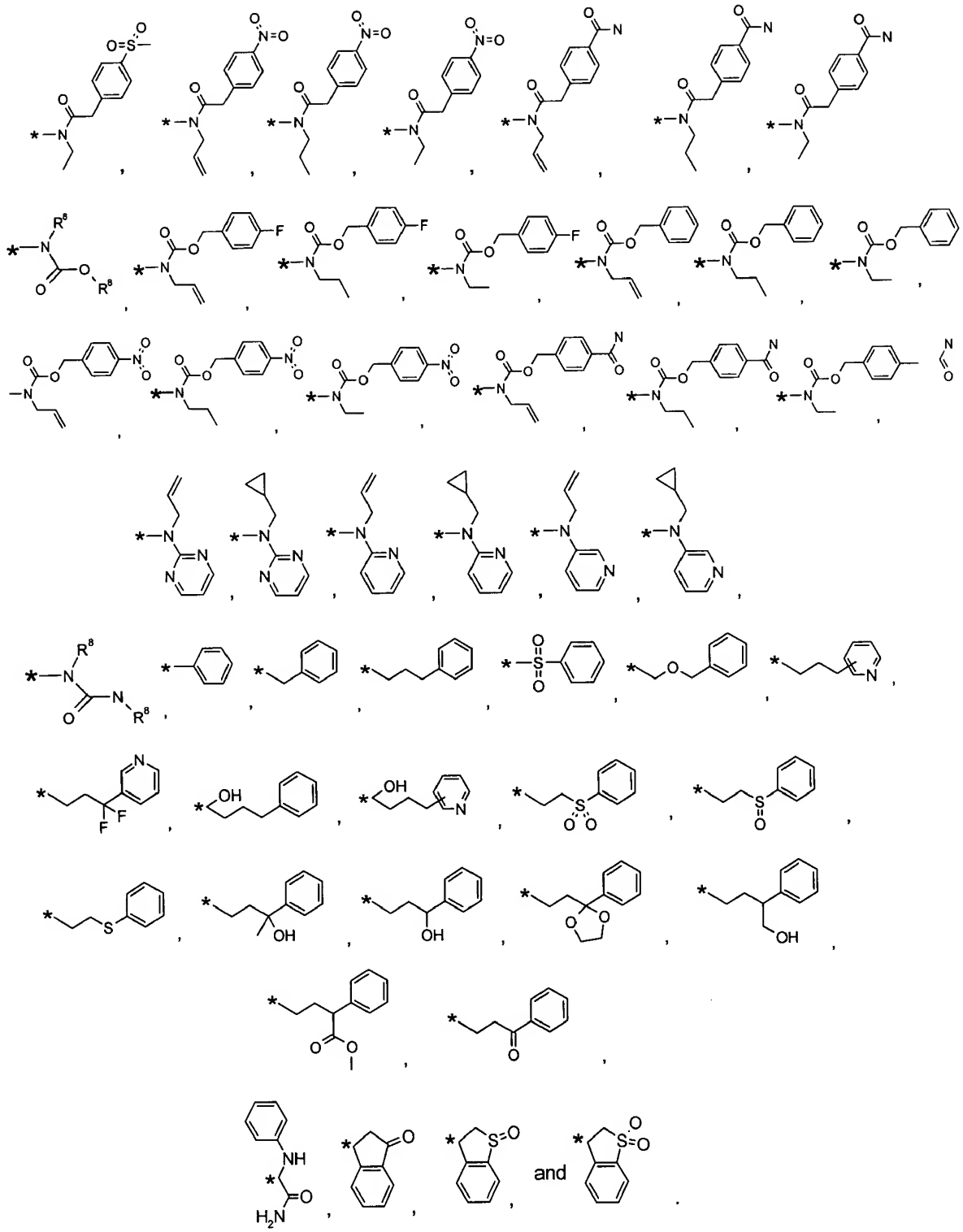


13. (Original) The compound of claim 12 wherein each R^2, with an asterisk indicating a point of substitution from Ring A, independently is selected from the group consisting of







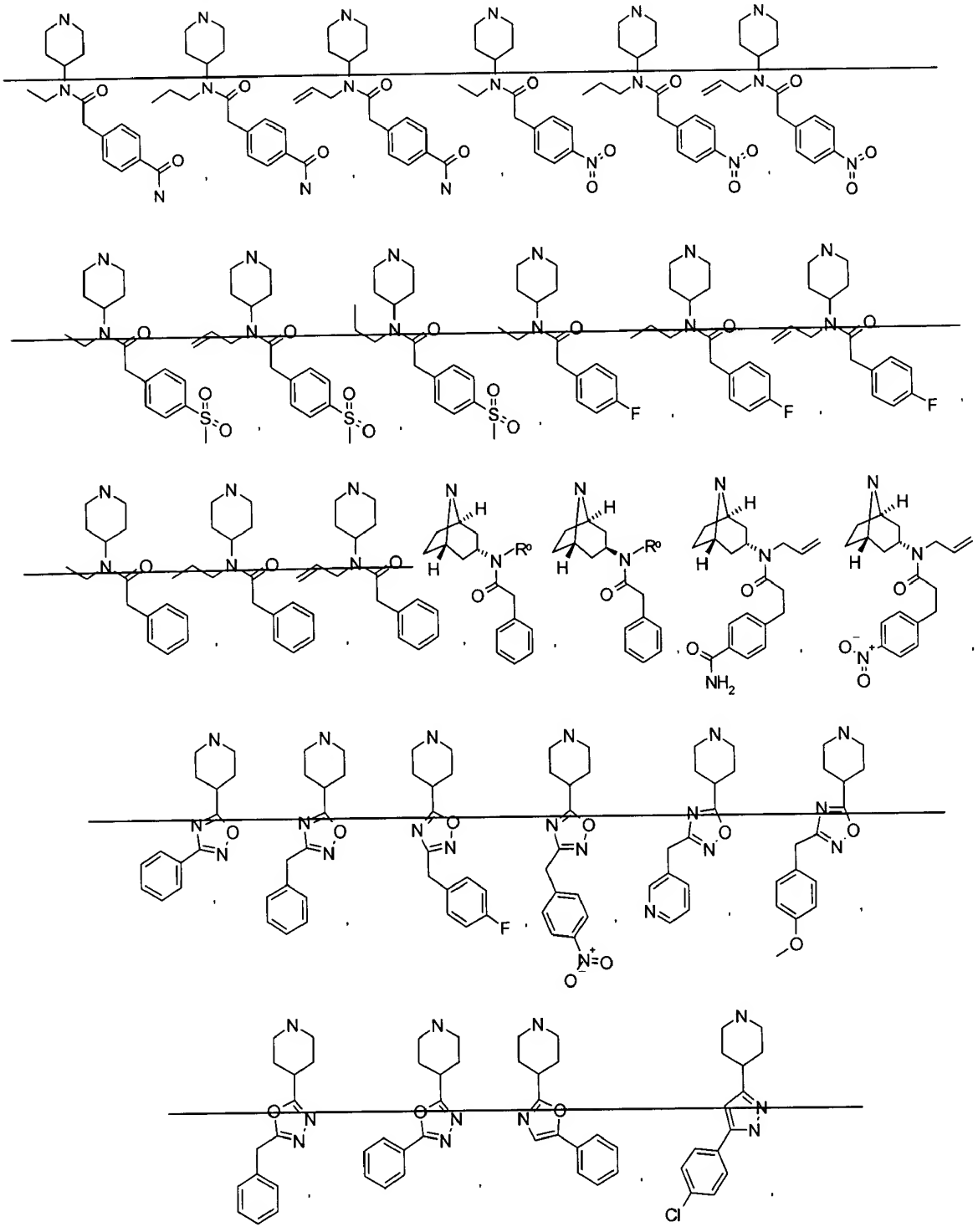
and

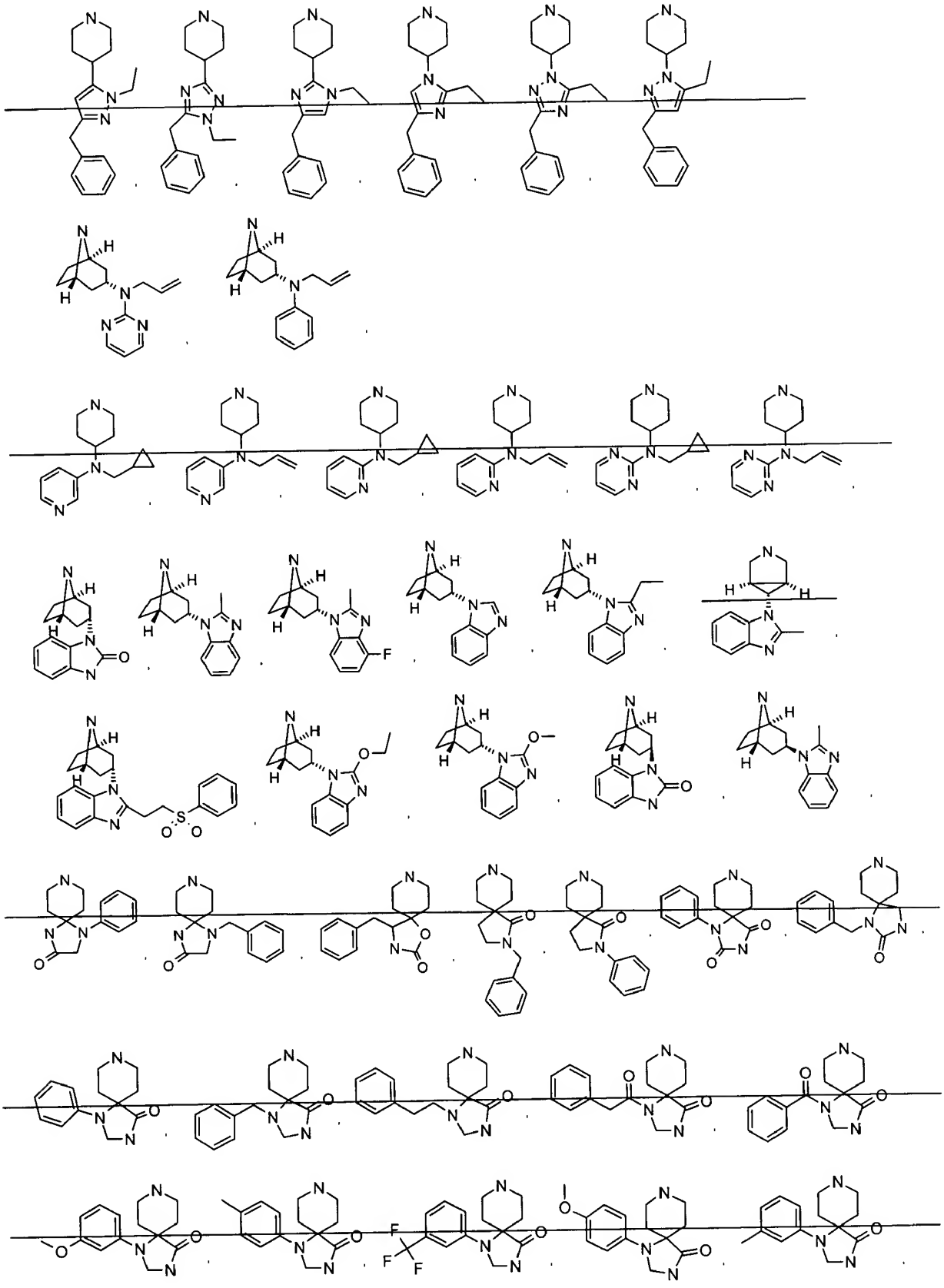
14. (Cancelled)

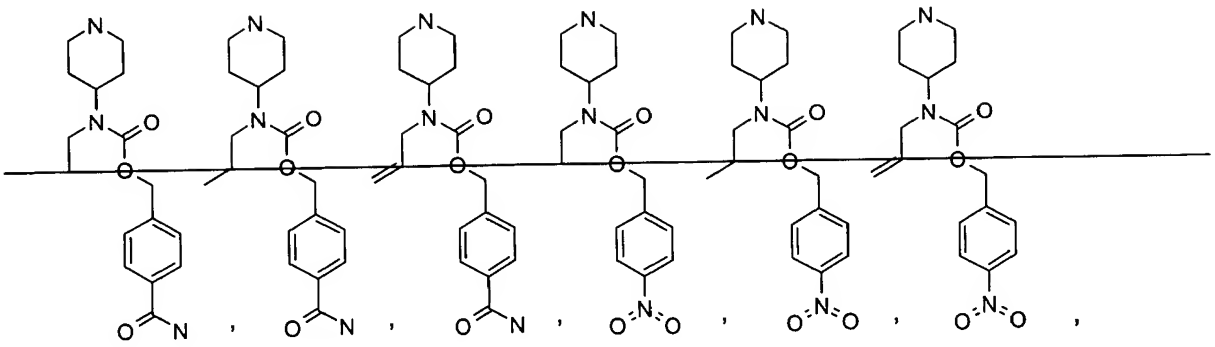
15. (Currently Amended) The compound of claim 1 wherein the A ring is tropane ~~or piperidine, either~~ optionally substituted with one or more R^2.

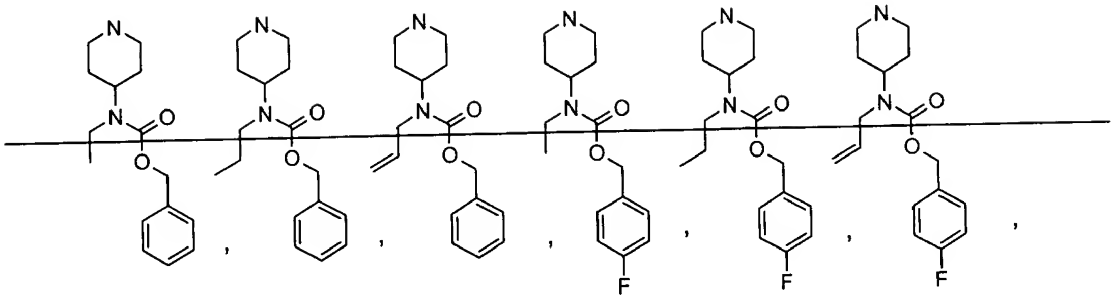
16. (Currently Amended) The compound of claim 15 wherein the A ring is an unsubstituted tropane.

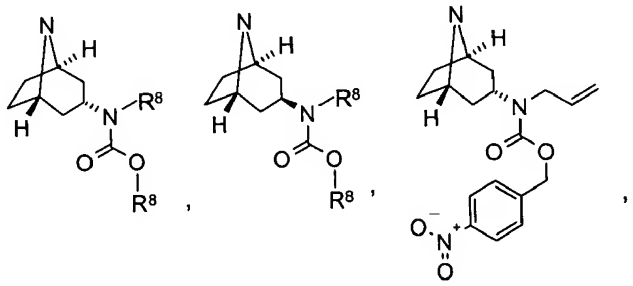
17. (Currently Amended) The compound of claim 15 wherein the A ring in combination with R^2 is

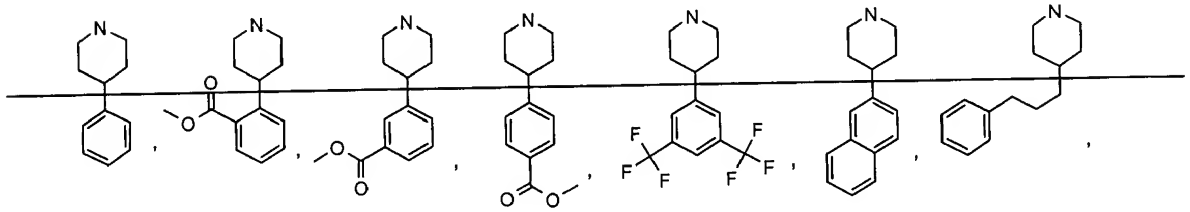


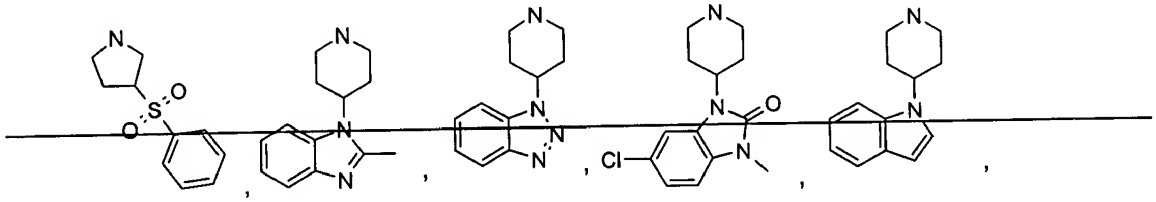


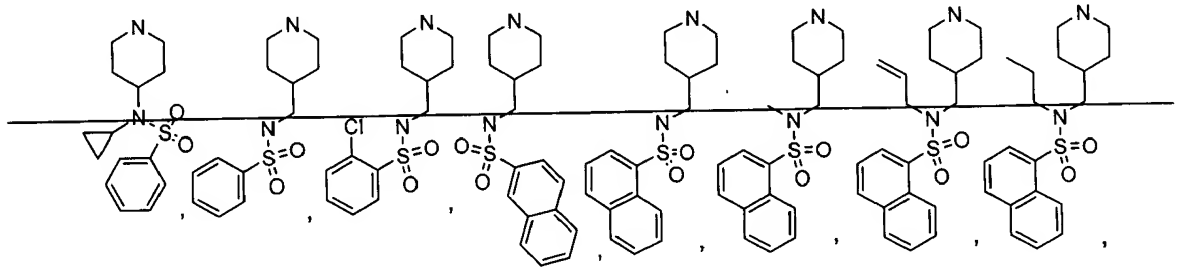


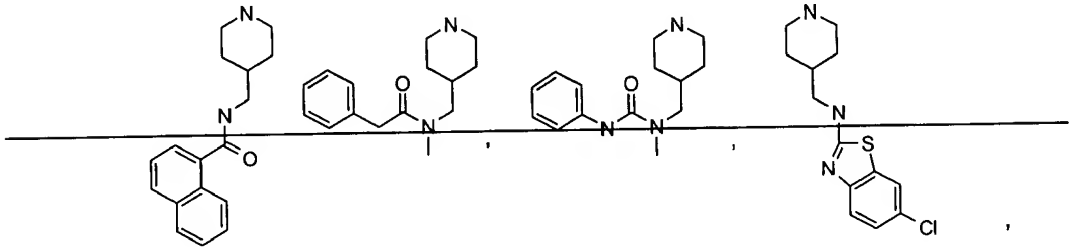


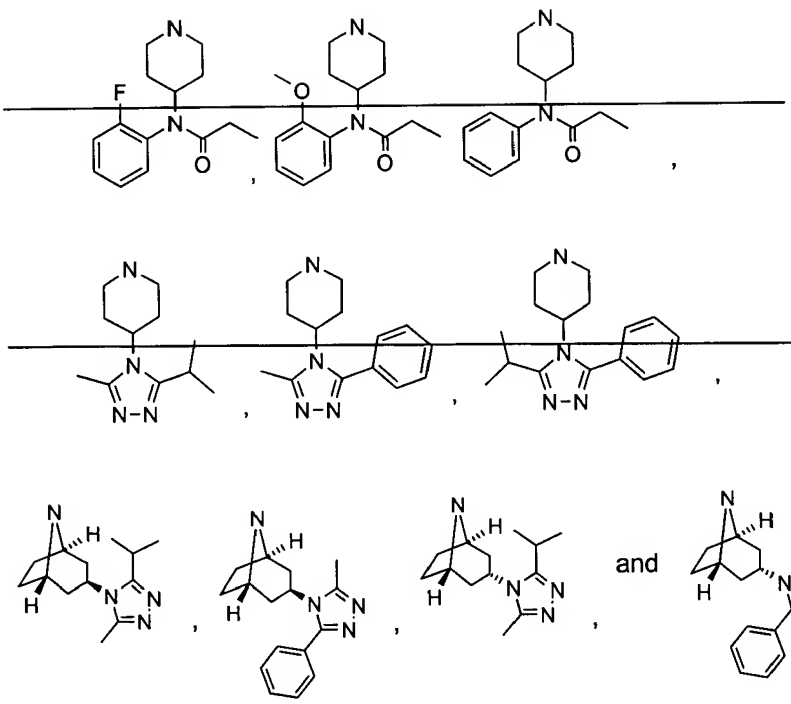












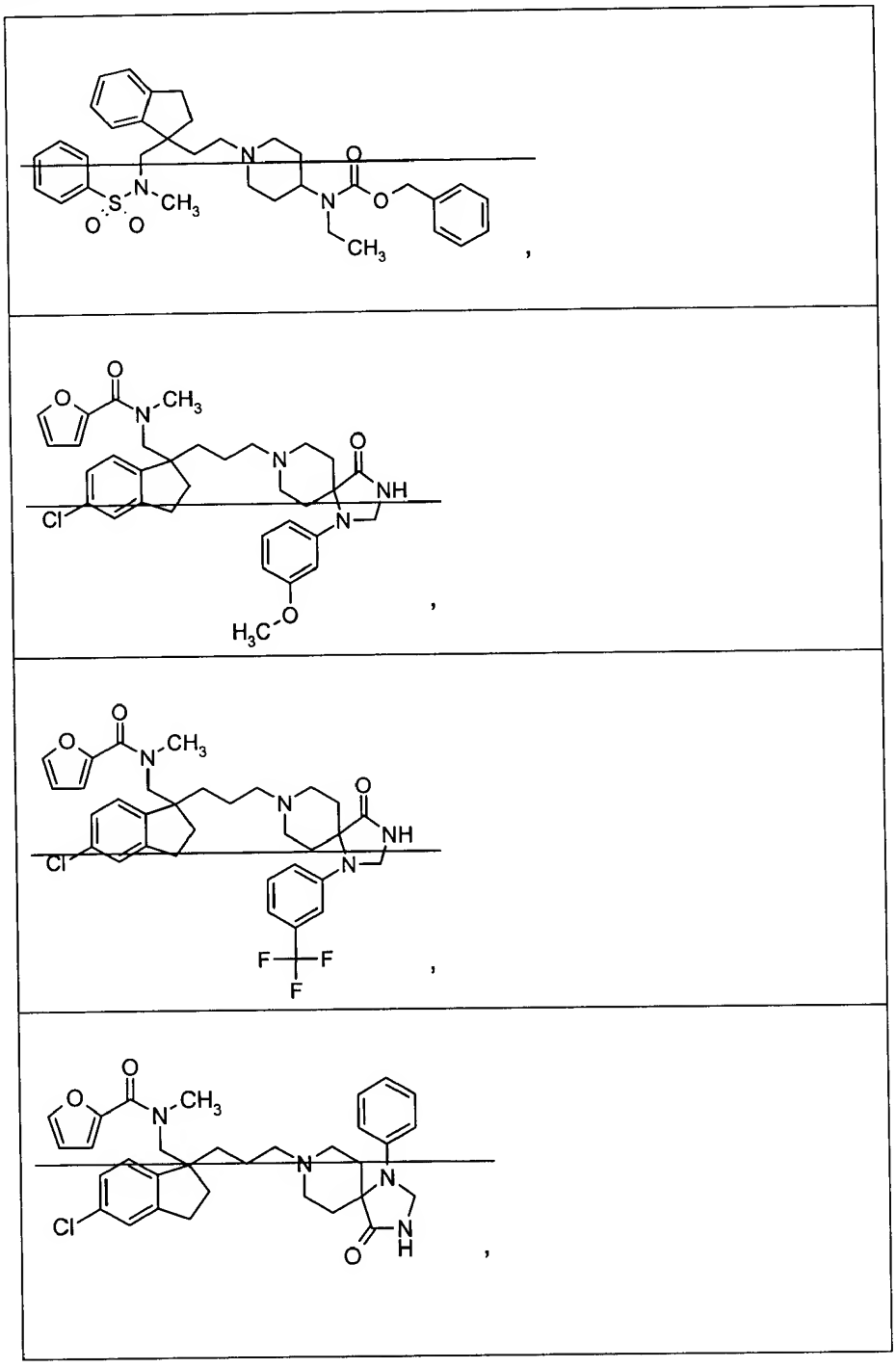
18. (Original) The compound of claim 15 wherein the tropane is endo.

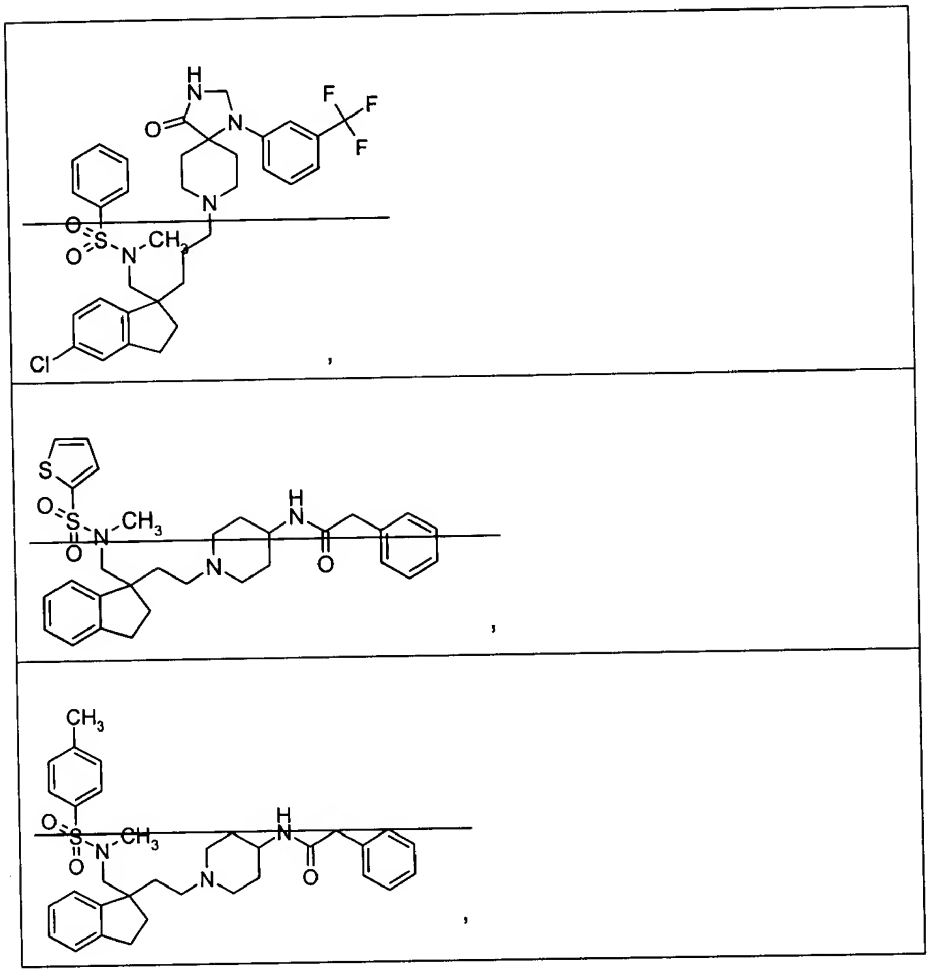
19. (Cancelled)

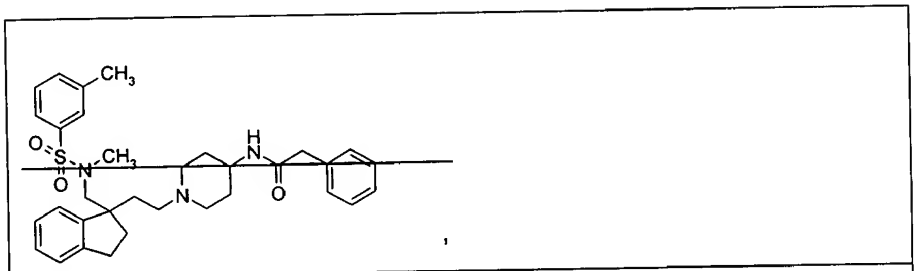
20. (Cancelled)

21. (Cancelled)

22. (Currently Amended) A compound or salt thereof selected from the group consisting of







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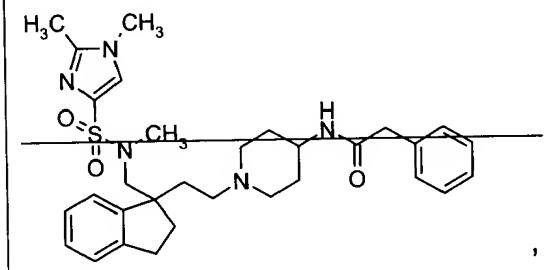

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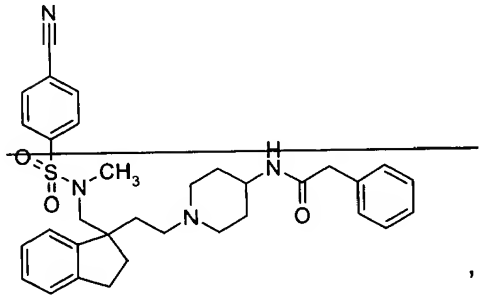

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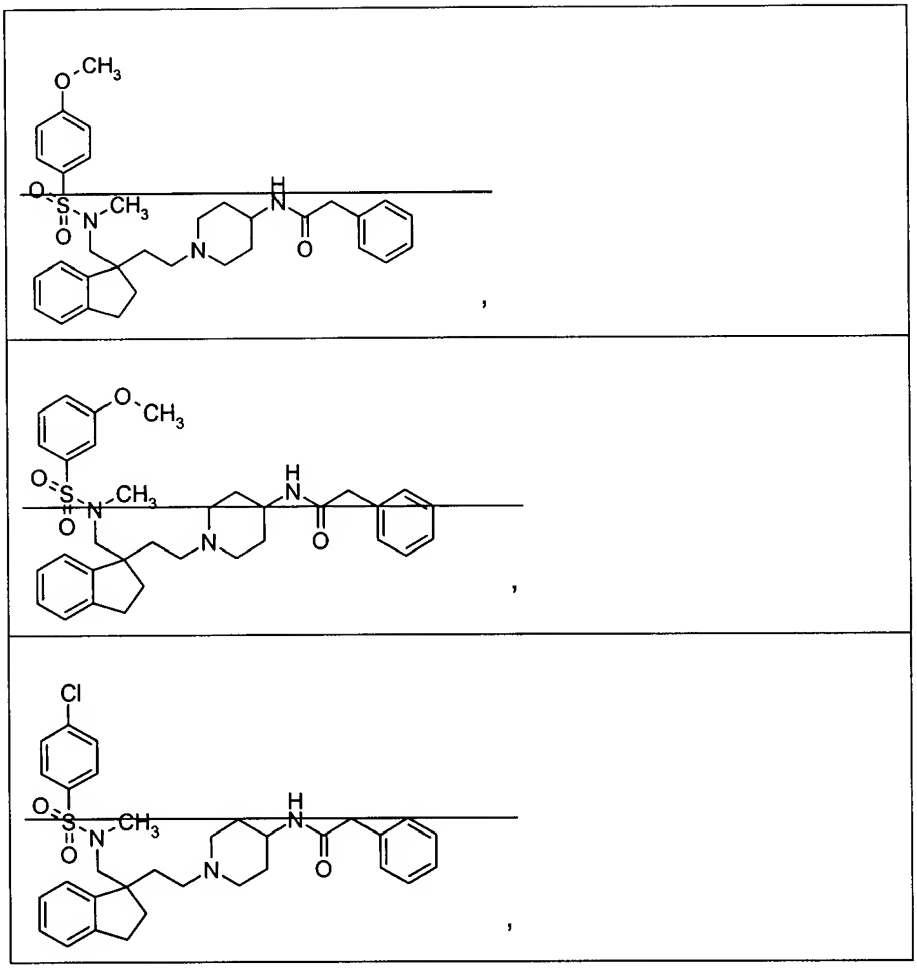

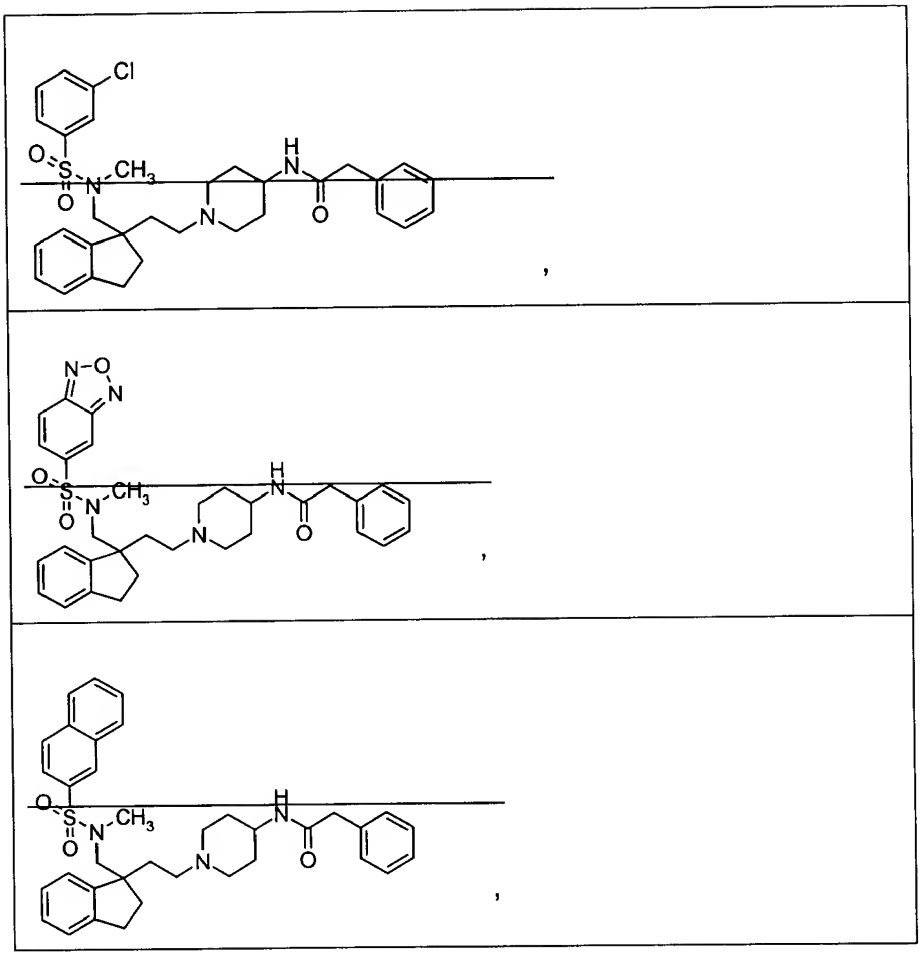

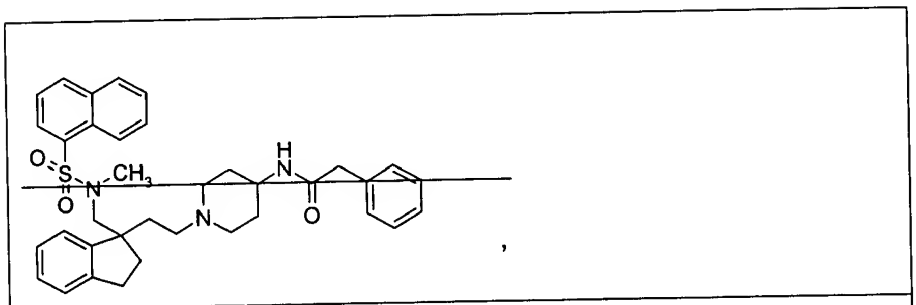

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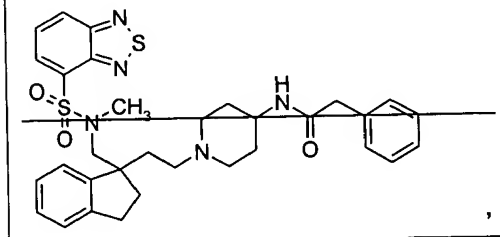

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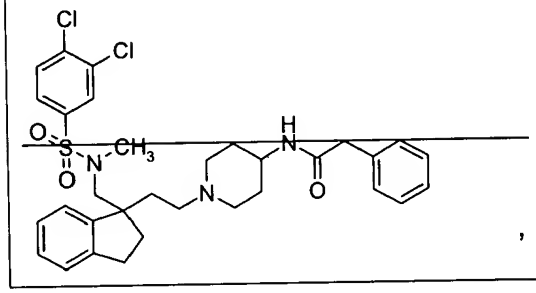

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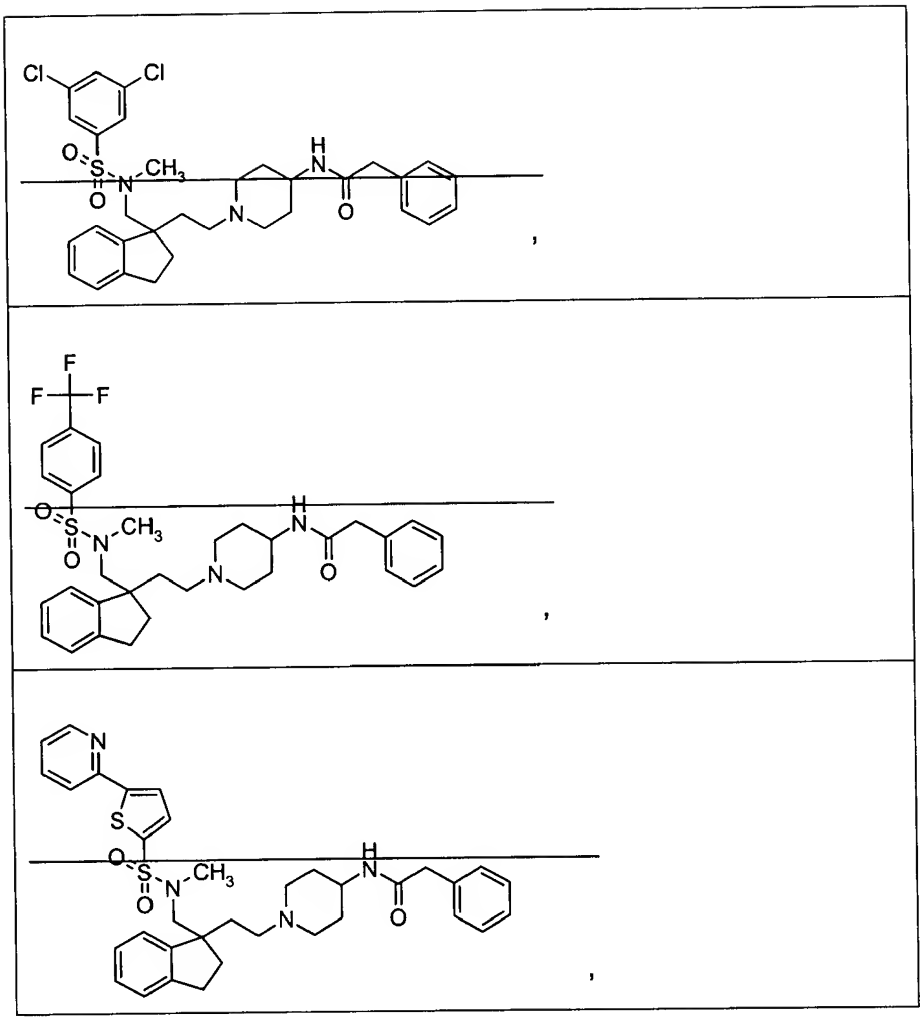

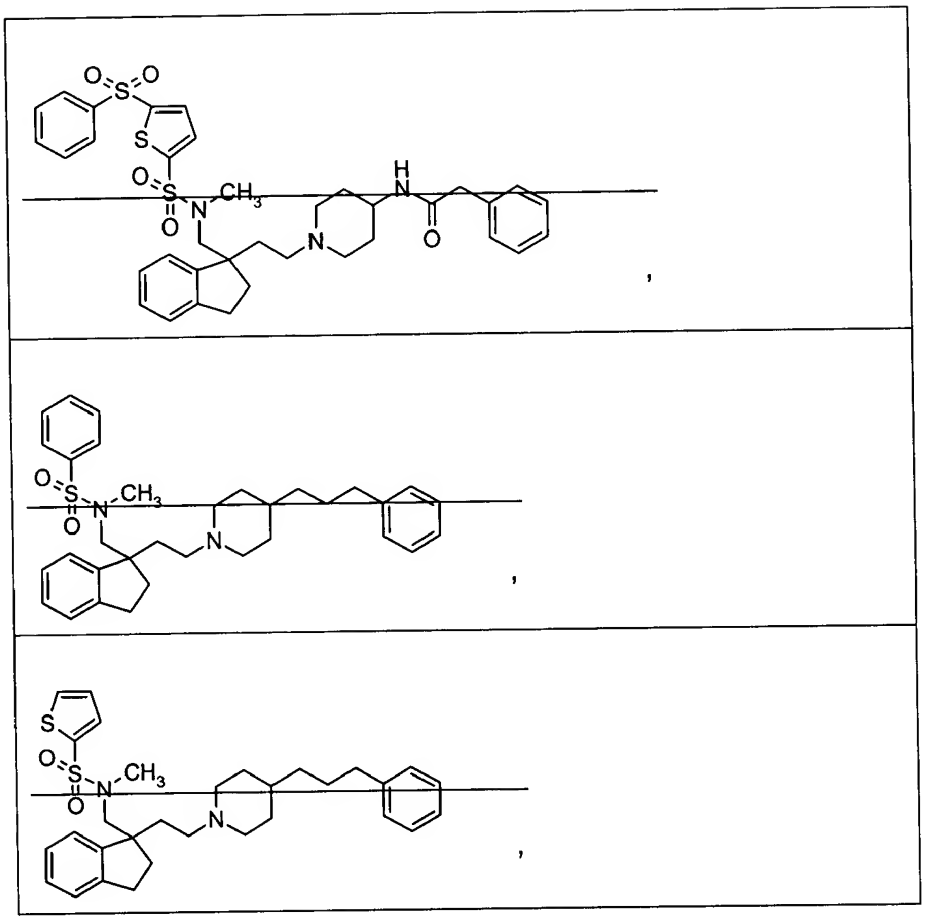

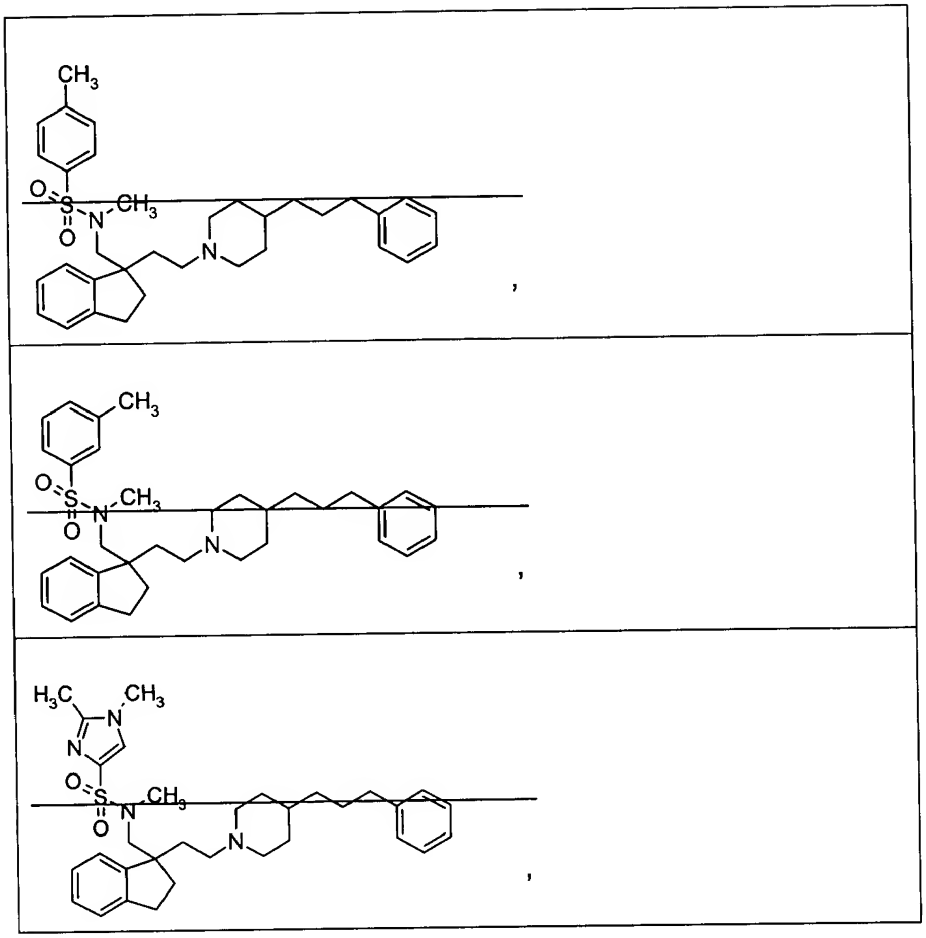

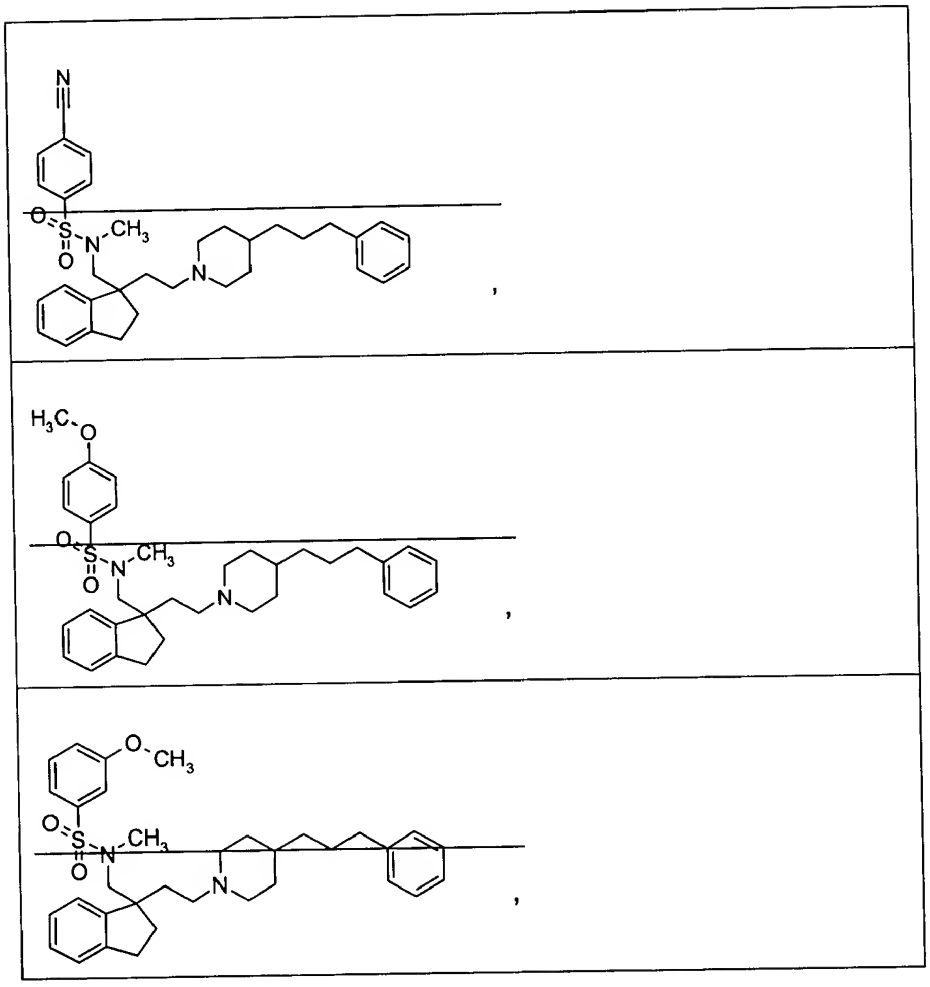

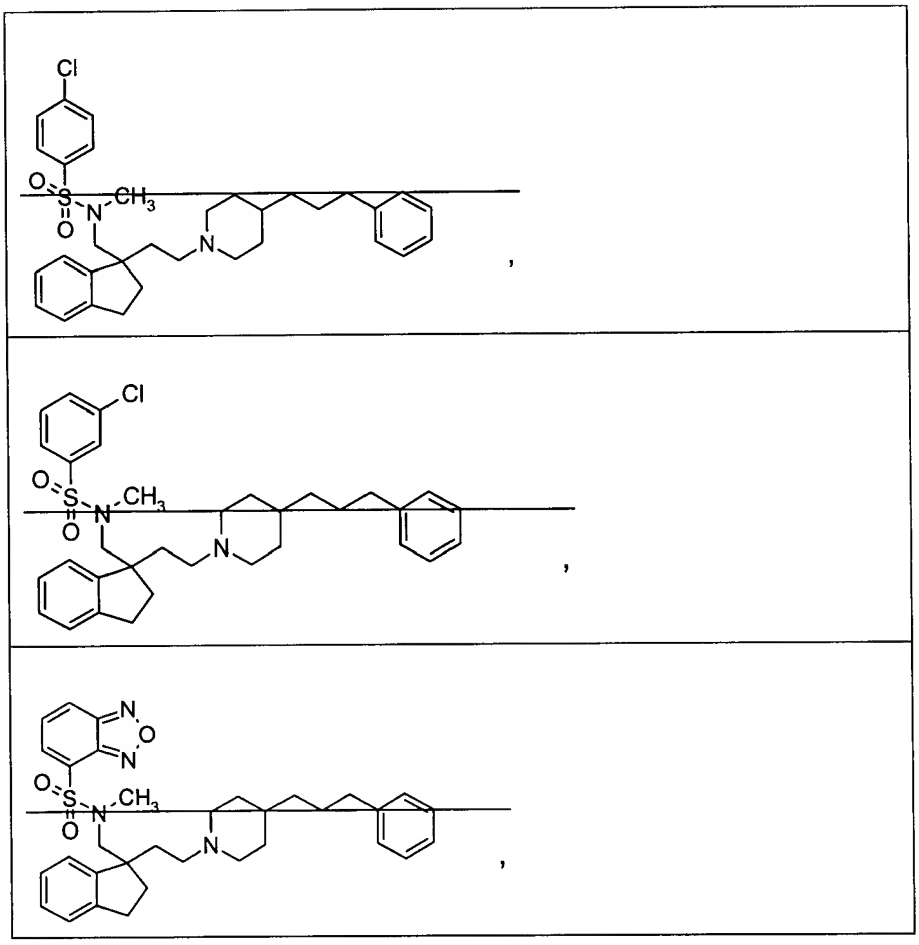

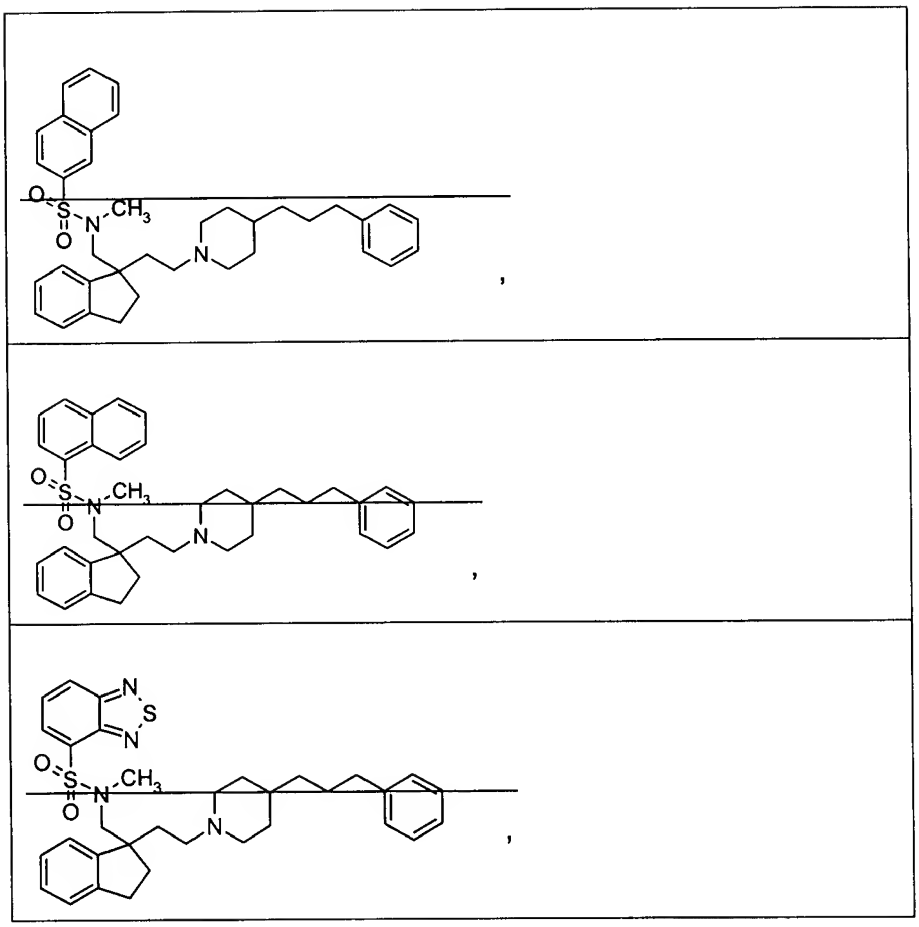

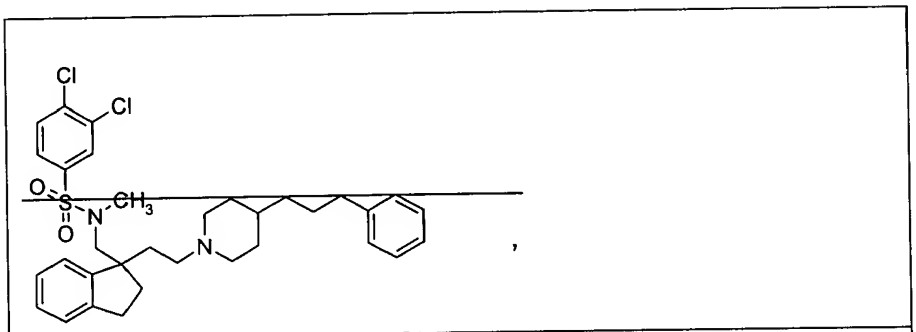

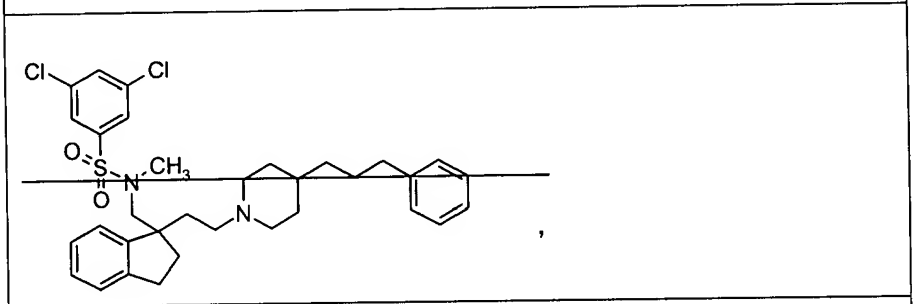

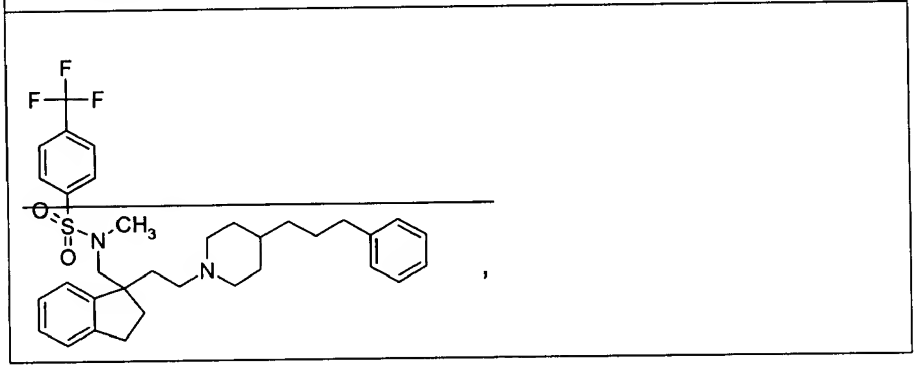

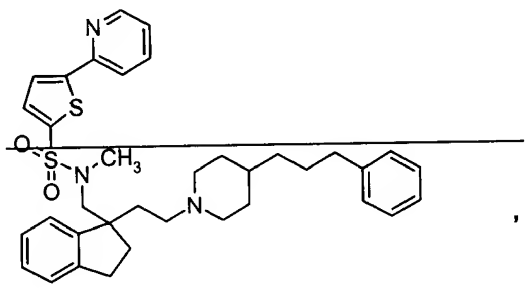

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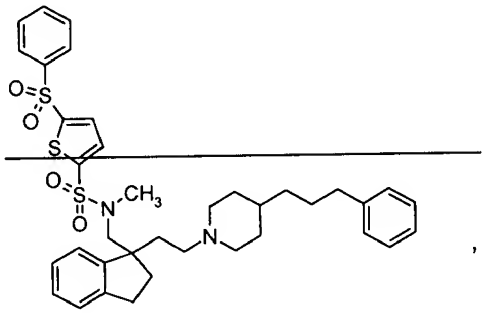

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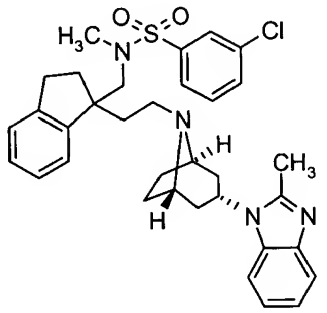

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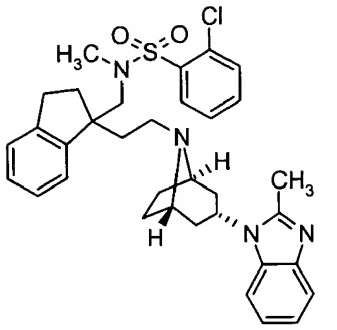

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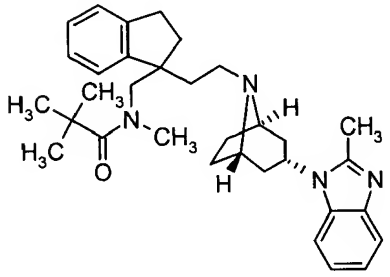

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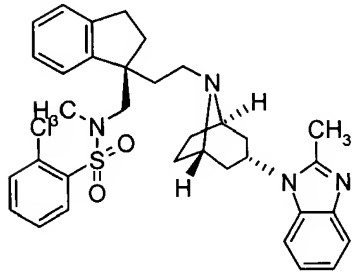

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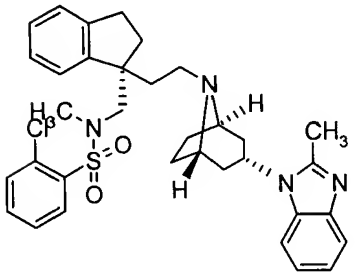

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23. (Currently Amended) A method of treatment of a viral infection in a ~~mammal~~ human comprising administering to said ~~mammal~~ human an antiviral effective amount of a compound according to claim 1.

24. (Original) The method according to claim 23 wherein the viral infection is an HIV infection.

25. (Currently Amended) A method of treatment of a bacterial infection in a ~~mammal~~ human comprising administering to said ~~mammal~~ human an effective amount of a compound according to claim 1.

26. (Original) The method of claim 25 wherein the bacterium is *Yersinia pestis.*

27-33. (Cancelled)

34. (Previously Amended) A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 1 together with a pharmaceutically acceptable carrier.

35. (Original) A pharmaceutical composition according to claim 34 in the form of a tablet or capsule.

36. (Original) A pharmaceutical composition according to claim 34 in the form of a liquid.

37. (Currently Amended) A method of treatment of a viral infection in a ~~mammal~~ human comprising administering to said ~~mammal~~ human a composition comprising a compound according to claim 1 and another therapeutic agent.

38. (Original) A method according to claim 37, wherein said composition comprises another therapeutic agent selected from the group consisting of (1-alpha, 2-beta, 3-alpha)-9-[2,3-bis(hydroxymethyl)cyclobutyl]guanine [(-)BHCG, SQ-34514, lobucavir], 9-[(2R,3R,4S)-3,4-bis(hydroxymethyl)-2-oxetanosyl]adenine (oxetanocin-G), acyclic nucleosides, acyclovir, valaciclovir, famciclovir, ganciclovir, penciclovir, acyclic nucleoside phosphonates, (S)-1-(3-hydroxy-2-phosphonyl-

methoxypropyl)cytosine (HPMPC), [[[2-(6-amino-9H-purin-9-yl)ethoxy]methyl]phosphinylidene] bis(oxymethylene)-2,2-dimethylpropanoic acid (bis-POM PMEA, adefovir dipivoxil), [[(1R)-2-(6-amino-9H-purin-9-yl)-1-methylethoxy]methyl]phosphonic acid (tenofovir), (R)-[[2-(6-Amino-9H-purin-9-yl)-1-methylethoxy]methyl]phosphonic acid bis-(isopropoxycarbonyloxymethyl)ester (bis-POC-PMPA), ribonucleotide reductase inhibitors, 2-acetylpyridine 5-[(2-chloroanilino)thiocarbonyl) thiocarbonohydrazone and hydroxyurea, nucleoside reverse transcriptase inhibitors, 3'-azido-3'-deoxythymidine (AZT, zidovudine), 2',3'-dideoxycytidine (ddC, zalcitabine), 2',3'-dideoxyadenosine, 2',3'-dideoxyinosine (ddI, didanosine), 2',3'-didehydrothymidine (d4T, stavudine), (-)-beta-D-2,6-diaminopurine dioxolane (DAPD), 3'-azido-2',3'-dideoxythymidine-5'-H-phosphophonate (phosphonovir), 2'-deoxy-5-iodo-uridine (idoxuridine), (-)-cis-1-(2-hydroxymethyl)-1,3-oxathiolane 5-yl)-cytosine (lamivudine), cis-1-(2-(hydroxymethyl)-1,3-oxathiolan-5-yl)-5-fluorocytosine (FTC), 3'-deoxy-3'-fluorothymidine, 5-chloro-2',3'-dideoxy-3'-fluorouridine, (-)-cis-4-[2-amino-6-(cyclopropylamino)-9H-purin-9-yl]-2-cyclopentene-1-methanol (abacavir), 9-[4-hydroxy-2-(hydroxymethyl)but-1-yl]-guanine (H2G), ABT-606 (2HM-H2G) ribavirin, protease inhibitors, indinavir, ritonavir, nelfinavir, amprenavir, saquinavir, fosamprenavir, (R)-N-tert-butyl-3-[(2S,3S)-2-hydroxy-3-N-[(R)-2-N-(isoquinolin-5-yloxyacetyl)amino-3-methylthiopropanoyl]amino-4-phenylbutanoyl]-5,5- dimethyl-1,3-thiazolidine-4-carboxamide (KNI-272), 4R-(4alpha,5alpha,6beta)]-1,3-bis[(3-aminophenyl)methyl]hexahydro-5,6-dihydroxy-4,7-bis(phenylmethyl)-2H-1,3-diazepin-2-one dimethanesulfonate (mozenavir), 3-[1-[3-[2-(5-trifluoromethylpyridinyl)-sulfonylamino]phenyl]propyl]-4- hydroxy-6alpha-phenethyl-6beta-propyl-5,6-dihydro-2-pyranone (tipranavir), N'-[2(S)-Hydroxy-3(S)-[N-(methoxycarbonyl)-l-tert-leucylamino]-4- phenylbutyl-N-alpha-(methoxycarbonyl)-N'-[4-(2-pyridyl)benzyl]-L- tert-leucylhydrazide (BMS-232632), 3-(2(S)-Hydroxy-3(S)-(3-hydroxy-2-methylbenzamido)-4-phenylbutanoyl)-5,5-dimethyl-N-(2-methylbenzyl)thiazolidine-4(R)-carboxamide (AG-1776), N-(2(R)-hydroxy-1(S)-indanyl)-2(R)-phenyl-methyl-4(S)-hydroxy-5-(1-(1-(4-benzo[b]furanylmethyl)-2(S)-N'-(tert-butylcarboxamido)piperazinyl)pentanamide (MK-944A), interferons, α-

interferon, renal excretion inhibitors, probenecid, nucleoside transport inhibitors, dipyridamole, pentoxifylline, N-acetylcysteine (NAC), Procysteine, α -trichosanthin, phosphonoformic acid, immunomodulators, interleukin II, thymosin, granulocyte macrophage colony stimulating factors, erythropoetin, soluble CD_4 and genetically engineered derivatives thereof, non-nucleoside reverse transcriptase inhibitors (NNRTIs), nevirapine (BI-RG-587), alpha-((2-acetyl-5-methylphenyl)amino)-2,6-dichloro-benzeneacetamide (loviride), 1-[3-(isopropylamino)-2-pyridyl]-4-[5-(methanesulfonamido)-1H-indol-2-ylcarbonyl]piperazine monomethanesulfonate (delavirdine), (10R, 11S, 12S)-12-hydroxy-6, 6, 10, 11-tetramethyl-4-propyl-11,12-dihydro-2H, 6H, 10H-benzo(1, 2-b:3, 4-b':5, 6-b")tripyran-2-one ((+) calanolide A), (4S)-6-Chloro-4-[1E)-cyclopropylethenyl)-3,4- dihydro-4-(trifluoromethyl)-2(1H)-quinazolinone (DPC-083), (S)-6-chloro-4-(cyclopropylethynyl)-1,4-dihydro-4-(trifluoromethyl)-2H-3,1-benzoxazin-2-one (efavirenz, DMP 266), 1-(ethoxymethyl)-5-(1-methylethyl)-6-(phenylmethyl)-2,4(1H,3H)-pyrimidinedione (MKC-442), and 5-(3,5-dichlorophenyl)thio-4-isopropyl-1-(4-pyridyl)methyl-1H-imidazol-2-ylmethyl carbamate (capravirine), glycoprotein 120 antagonists, PRO-2000, PRO-542, 1,4-bis[3-[(2, 4- dichlorophenyl)carbonylamino]-2-oxo-5,8-disodiumsulfanyl]naphthalyl-2, 5-dimethoxyphenyl-1, 4-dihydrazone (FP-21399), cytokine antagonists, reticulose (Product-R), 1,1'-azobis-formamide (ADA), 1,11-(1,4-phenylenebis(methylene))bis-1,4,8,11-tetraazacyclotetradecane octahydrochloride (AMD-3100), integrase inhibitors, and fusion inhibitors.

39. (Currently Amended) A method of treatment of a viral infection in a ~~mammal~~ human comprising administering to said ~~mammal~~ human a composition comprising a compound according to claim 1 and ritonavir.